

P R O P R I E T A R Y

CICS APPLICATION FILE CONTROL FACILITY - RELEASE 4.5

INSTALLATION MANUAL - CICS Versions TS1.3 - 3.2

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## INTRODUCTION

CICS Application File Control facility eliminates 2 sets of the everyday CICS operational problems. The first set of problems is the unfriendliness of the built-in CICS resource control commands. The second set of problems is associated with CICS applications coming on-line and off-line at different times during a single CICS execution, especially 24-hour CICS shops. Some of these problems are:

1. JCL errors caused by data sets being deleted during batch and not being recreated by CICS start-up time.
2. Renaming CICS data sets while CICS is up.
3. Taking an application off-line which has many files to close and deallocate and many transactions to disable.
4. Scheduling trouble free communications between MVS batch jobs and the various CICS regions that own files in need of batch updates.

CAFC also provides many advantages in a CICS testing environment. These include:

1. The ability to create FCT and DCT entries before the files are available and when they are available have CICS access them even if CICS is already up.
2. The ability to switch between test files without having to cycle your CICS regions.
3. Giving the application programmers the ability to bring their applications on-line and off-line whenever they wish. This gives them the freedom to test batch cycles during the day while CICS is up instead of at night when the test CICS system is down.

## INSTALLATION PROCEDURES

The procedure for installing the CICS Application File Control facility Release 4.5 follows. The topics include general information and specific installation details. The information supports (1) first time CAFC installations, (2) installations upgrading to the most current release of the product and (3) installations refreshing a current release with a new maintenance level release. In this manual you will find the abbreviation, 'B/I', which stands for Batch Interface.

### SUMMARY OF BASE SYSTEM INSTALLATION PROCEDURE

This procedure allows our users to quickly install the basic CAFC system. The installation can be easily verified and many of CAFC's extensive features can be demonstrated and evaluated for possible inclusion later in the full installation.

The recommended approach for the initial installation of CAFC is:

- ✓ Review the SYSTEM CONFIGURATION REQUIREMENTS Chapter.
- ✓ Review the Migration Check List chapter if you are upgrading your CAFC release level.
- ✓ Follow INSTALLATION PROCEDURE FOR THE CAFC BASE SYSTEM
- ✓ Review the chapters entitled CAFC FEATURES AND CONSIDERATIONS. Determine which of these optional features would enhance your CICS and batch operations.

### INSTALLATION PROCEDURE FOR THE CAFC BASE SYSTEM

The base system installation is a 5-step process. The complete installation requires seven more optional steps. Below is a summary of the installation steps:

- Step 1      Unload the CAFC installation library.
- Step 2      Unload the CAFC load and macro libraries.
- Step 3      Update the CICS entries for PCT, PPT and the PLT. Update the TCT, XLT, and the VTAM APPLID table if you are planning to use CAFC's Batch Interface facility. See Step 8 for more details. A file has been included on the installation tape that contains CICS RDO entries for the PCT, PPT, and TCT. Use the CSD provided on the distribution tape, do not use an older version.
- Step 4      Build (1) the CAFC Table File, AF4CF4000, and (2) the Message file, AF4CFMSG, with the IDCAMS' parameters and the JCL supplied on the Installation Tape.

## INSTALLATION PROCEDURES

### INSTALLATION PROCEDURE FOR THE FULL CAFC SYSTEM - CONTINUED

- Step 5      Update your CICS startup JCL per the installation instructions. Once you are satisfied that the base CAFC system is properly installed and functioning, continue with Steps 6-10. Step 9 should be installed only if you wish to activate CAFC's extend support for automatic allocation of DCT data queues. Step 10 should be installed only if your installation routinely changes the status of transactions with CEMT commands or program calls to the EXEC CICS interface.
- Step 6      Add files, databases and other CICS resources that you wish to place under CAFC's control to the CAFC Table File.
- Step 7      Install CAFC's Batch Interface facility to activate the two way communication facility between CICS and your batch jobs. This facility allows your batch jobs to submit file control and other types of commands to one or more local or remote CICS regions. The commands include: (1) CAFC file and database status changes, (2) transaction status changes, (3) CEMT commands, (4) initiation of messages to lists of users, (5) the initiation of conversational and non-conversational CICS user transactions with or without keyed input and responses, (6) execution of CICS user programs, (7) transfer of control to CICS user programs and (8) maintenance to the CAFC Table File.
- Step 8      Review and set CAFC's Customization Options. These options automatically default to values that operate properly for most VSAM and IMS environments. The options should be reviewed and refined to meet your region unique requirements.
- Step 9.      If you routinely use CEMT set commands or program calls to the EXEC CICS interface to close and open transient data queues, continue with Step 9. The procedures will install CAFC's interface that intercept command activity against DCT resources. The interface allows CAFC to automatically allocate/enable and free/disable DCT resources as CEMT requests and EXEC CICS open and close calls are issued against DCT resources.



## INSTALLATION PROCEDURES

### INSTALLATION PROCEDURE FOR THE FULL CAFC SYSTEM - CONTINUED

- Step 10. If you routinely use CEMT set commands, not CAFC requests, to enable and disable transactions, follow the instructions in step 10. The procedures will install an interface that intercepts command activity against PCT resources. The interface allows CAFC's Transaction record status flags to remain synchronized with the PCT enable/disable status. As EXEC CICS or CEMT set commands change the enable/disable status, CAFC will automatically update its own TXN record status flags. This insures a more reliable region startup.
- Step 11. If you routinely use CEMT set commands, not CAFC requests, to enable and disable fct entries, follow the instructions in step 11. The procedures will install an interface that intercepts command activity against FCT resources. The interface allows CAFC to automatically allocate/enable and free/disable FCT resources as CEMT requests and EXEC CICS open and close calls are issued against FCT resources.
- Step 12. If you routinely have fct entries defined with OpenTime=Startup or need FCT entries allocated on an implicit request such as a read or browse to a closed,enabled file, follow the instructions in step 12. The procedures will install an interface that intercepts command activity against FCT resources for initial opens or implicit opens. The interface allows CAFC to automatically allocate/enable FCT resources for CSFU during CICS startup or for firstref opens

## INSTALLATION PROCEDURES

### INSTALLATION TAPE FILES

The program material needed to install the CICS Application File Control facility is distributed on a standard labeled 3480 cartridge or CD-Rom. The tape media contains the nine files described below.

<u>File No.</u>	<u>Data Set Name</u>	<u>Description</u>
1	CAFC.R4500.INSTLIB	Installation JCL,CICS table entries, VTAM definitions, User exit programs.
2	CAFC.R4500.VSAMLOAD	Table header records that are used to create a new CAFC VSAM Table File.
3	CAFC.R4500.AFCFMSG	Error Messages and HELP screen records.
4	CAFC.R4500.CSDLOAD	DFHCSD RDO entries for CAFC that can be moved into your existing CSD file. One group contains PCT and PPT entries. Another offers example TCT groups that can be tailored to your needs.
5	CAFC.R4500.MACLIB	CAFC Macros for assembling optional source members.
6	CAFC.R4500.LOADLIB	CAFC On-line and Batch Load Modules
7	CAFC.R4500.ISPMLIB	CAFC ISPF Log Viewer message file
8	CAFC.R4500.ISPPLIB	CAFC ISPF Log Viewer panels
9	CAFC.R4500.ISPTLIB	CAFC ISPF Log Viewer table library

## INSTALLATION PROCEDURES

### DETAIL INSTALLATION STEPS

The detail installation steps for the base CAFC system follow:

#### STEP 1. UNLOAD THE INSTALLATION LIBRARY

Modify the following JCL according to your installation requirements and submit it for execution. Be sure to modify the input volser number with the tape label found on the front of your CAFC release cartridge. **If you installed CAFC using a CD-Rom or FTP download this step can be bypassed. The install library was installed during the unpackaging process.**

```
//INSTL000      JOB   (ACCT INFO...)
//* ****
//*
//*  RESTORE THE CAFC INSTALLATION LIBRARY TO DISK
//*
//* ****
//*
//STEP0001      EXEC   PGM=IEBCOPY
//SYSPRINT      DD     SYSOUT=*
//SYSUT1        DD     DSN=CAFC.R4500.INSTLIB,
//              DISP=(OLD,KEEP),
//              UNIT=TAPE,
//              LABEL=(1,SL,EXPDT=98000),
//              VOL=SER=XXXXXX
//SYSUT2        DD     DSN=CAFC.R4500.INSTLIB,
//              DISP=(NEW,CATLG,DELETE),
//              UNIT=SYSDA,
//              SPACE=(TRK,(30,5,15),RLSE),
//              DCB=(RECFM=FB,LRECL=80,BLKSIZE=3120),
//              VOL=SER=usrdsk
//SYSIN         DD     *
COPY           I=SYSUT1,O=SYSUT2
/*
```

#### STEP 2. UNLOAD THE CAFC LOAD LIBRARY AND MACRO LIBRARY

Restore the CAFC LOAD library and MACRO library to a DASD unit. Move CAFC's internal authorization module to an authorized library in the CICS steplib. Use the following member from the CAFC.R4500.INSTLIB to perform both actions:

@INST045 for restoring CAFC 4.5 load libraries.

**If you installed CAFC using a CD-Rom or FTP download the loadlib and maclib libraries were installed during the unpackaging process. Run @INST45C to copy CAFC's authorization modules to the Steplib.**

## INSTALLATION PROCEDURES

### STEP 3. UPDATE THE CICS TABLES

Update the CICS PLTPI, XLT, and TCT tables by using the members required for your version of CICS from the CAFC.R4500.INSTLIB:

CAFCPLTI	PLTPI entries for CICS startup
CAFCXLT	XLT entries for Batch Interface
CAFCTCT	TCT entries for B/I LU6.2/LU0 terminals
CAFVT7A	CICS Region VTAM APPL for B/I definitions

The CAFC installation tape provides the RDO definitions for transactions, programs, maps and terminal entries. Use the jobstreams provided in CAFC.R4500.INSTLIB. Define a temporary DFHCSD file. Load the entries from the CAFC.R4500.CSDLOAD file to the temporary DFHCSD file. Use the job stream members below. **Use either @INST050 or @INST50C depending on the type of install being performed, tape or cd-rom.**

@INST050(for tape installs)	for defining and loading a temporary DFHCSD file containing a group for CAFC programs and transactions and other groups defining CAFC's LU6.2 and LU0 terminal T050 entries.
@INST50C(for CD installs)	for defining and loading a temporary DFHCSD file containing a group for CAFC programs and transactions and other groups defining CAFC's LU6.2 and LU0 terminal T050 entries.
@INST060	use this job to move CAFC's predefined RDO entries to your DFHCSD file and to add them to the GRPLIST that is installed at CICS startup. If you plan to install the TCT entries via RDO, please reference the next page.

New programs and transactions may have been added to the release you are installing. Replace your old CAFCGRP with the newly installed group to insure you have all new programs and maps. Modify CAFC's RDO groups per your site's installation requirements. Add the new or updated groups to your CSD GRPLIST. Be sure to cold start the CICS region the first time up.

**DETAIL INSTALLATION STEPS - CONTINUED**

**STORAGE PROTECTION FEATURE 'ON'**

In A CICS TS environment that is using the Storage Protection Feature, ALL CAFC programs must be defined with EXECKEY(CICS) and ALL CAFC transactions defined with TASKDATAKEY (CICS). No change is necessary for DATALOCATION or TASKDATALOC. All CAFC programs and transactions have been shipped predefined with EXECKEY(CICS) and TASKDATAKEY(CICS) for ease in running both environments, storage protection and non-storage protection.

**B/I TCT GROUPS SIGNON METHOD 'FMH5'**

The following TCT groups use the "FMH5" signon method for CAFC LU6.2 /EXCI B/I security. The ATTACHSEC operand of the TERMINAL or CONNECTION entries must be IDENTIFY for the signon method of "FMH5". If you specify VERIFY, your B/I step will experience a signon error. "FMH5" will allow RACF to secure the LU6.2 Batch Interface's operation.

CAFCCONN1	CONNECTION and SESSION entries for CAFC Batch Interface LU6.2 & EXCI terminal.
CAFCCLU01	TERMINAL AND TYPETERM entries for CAFC Batch Interface LU0 terminal.
CAFCTRM1	TERMINAL and TYPETERM entries for CAFC Batch Interface LU6.2 terminal.

**B/I TCT GROUPS SIGNON METHOD 'NONE'**

These TCT groups allow use of signon method "NONE" for B/I security. The ATTACHSEC operand of the TERMINAL for CONNECTION entries must be LOCAL for a signon method of "NONE"

CAFCCONN2	CONNECTION and SESSION entries for the CAFC Batch Interface LU6.2 & EXCI terminal.
CAFCCLU02	TERMINAL AND TYPETERM entries for the optional CAFC Batch Interface LU0 terminal.
CAFCTRM2	TERMINAL and TYPETERM entries for the CAFC Batch Interface LU6.2 terminal.

**DETAIL INSTALLATION STEPS - CONTINUED**

**STEP 4. CREATE THE CAFC TABLE FILE**

To create the "CAFC table file" and the "CAFC message file", submit member

## INSTALLATION PROCEDURES

@INST020 from the CAFC.R4500.INSTLIB to perform the required VSAM DEFINES and REPRO functions. **Use member @INST20C if installing from CD-ROM or FTP download.**

### STEP 5. UPDATE THE CICS STARTUP JCL

Add the following DD statements to the "CICS" step in the CICS startup JCL: (1) the CAFC Table File, (2) the AFCFMSGs Messages File, (3) the CAFC Trace output file, (4) the CAFCPARM warm start parameter override file and (5) the CAFCOVER request override file. Note: The key length for all message records has changed so you must use the new CAFC4400 AFCFMSGs file in all regions where CAFC4400 is installed.

```
//AFCF4000      DD   DSN=CAFC.R4500.AFCF0001,DISP=SHR
//AFCFMSGSGS    DD   DSN=CAFC.R4500.AFCFMSGSGS,DISP=SHR
//CAFCTRAC      DD   SYSOUT=*
//CAFCPARM      DD   *
//CAFCOVER      DD   *
```

Make sure the CAFC Load library from Step 2 has been placed in the DFHRPL DD concatenation.

```
//DFHRPL DD DSN=CAFC.R4500.LOADLIB,DISP=SHR
```

NOTE: DO NOT place an entry in any region's FCT for either the CAFC Table File, AFCF4000, or the Message file, AFCFMSGSGS.

### **DCB ATTRIBUTES FOR CAFC OUTPUT DATASETS**

DCB attributes for CAFCPARM dataset are	DSORG=PS, LRECL=80, RECFM=FB
DCB attributes for CAFCTRAC dataset are	DSORG=PS, RECFM=F, LRECL=132
DCB attributes for CAFCWTSOS dataset are	DSORG=PS, RECFM=F, LRECL=132
DCB attributes for all LOG datasets are	DSORG=PS, RECFM=F, LRECL=128

### **DETAIL INSTALLATION STEPS - CONTINUED**

#### STEP 6. ADD RESOURCES TO THE CAFC TABLE FILE

Logon to your CICS region and enter the AFCS Transaction. Respond to the request for a USERID and PASSWORD with the default values of 'MASTER' and

## INSTALLATION PROCEDURES

'PASSWORD'. The Primary Option Menu will be displayed. This menu directs you to the various CAFC facilities. You may begin to add CICS files to the CAFC Table File through the Edit. Refer to the USER GUIDE section entitled EDITING CAFC TABLES and to the INSTALL GUIDE section entitled MAINTENANCE AND CONVERSION AIDS.

Before you place your VSAM files under the control of CAFC, insure that you are using the DFHFCT TYPE=SHRCTL macroinstructions to define the sizes and characteristics of your VSAM local shared resource pools. You must code BUFFERS, KEYLEN and STRNO parameters on the SHRCTL macro. DO NOT USE the RSCLMT parameter. If you fail to code the above-mentioned parameters for the LSR pools, CICS can easily miscalculate the proper pool size. When the LSR pool size is in error, CICS region startup is delayed or even halted. Subsequent allocation/OPEN failures will occur. A common symptom pointing to LSR pool size errors is the CICS message DFH0961.

When you properly code the SHRCTL macro, your regions will benefit. First, CICS does not have to calculate pool sizes during initialization. Second, you dramatically reduce CICS's and CAFC's initialization processing overhead. Third, you move the normal allocation/OPEN overhead for FCT entries from CICS initialization to transaction execution time. This is in keeping with CICS TS philosophy. If you strive for reliable operations, you must use the SHRCTL macro in all of your production regions.

**DETAIL INSTALLATION STEPS - CONTINUED**

**STEP 6. ADD RESOURCES TO THE CAFC TABLE FILE - CONTINUED**

NEW CAFC USERS - refer to the section CAFC FEATURES AND CONSIDERATIONS: REMOVING DD STATEMENTS FROM CICS's JCL for information on setting up CAFC to control your CICS system. Also review the chapter entitled MAINTENANCE AND CONVERSION AIDS.

EXISTING CAFC USERS - if you are running a CAFC Release prior to CAFC4.5 you MUST convert your existing CAFC Table Files to the new format and replace your old AFCFMSGGS file with the new one. The conversion process sets several flags that are interrogated by CAFC during CICS initialization as well as initializing new option fields. If your CAFC Table File happens to have already been converted, the procedures will not damage your file.

- |         |  |
|---------|--|
| Step 1. | Use member @INST020 or @INST02C(if installing from CD) in CAFC.INSTLIB to create and initialize a new CAFC tablefile and message file. |
| Step 2. | Use member @INST030 to repro your existing file to the newly defined file produced by Step 1.  |
| Step 3. | Use member @INST070 in the CAFC.INSTLIB to convert the newly built tablefile.  |
| Step 4. | Replace the old AFCFMSGGS message file in the CICS region jcl with new one created in Step 1.  |

**STEP 7. Installing CAFC's Batch Interface Facilities**

See the Chapter entitled CAFC BATCH-TO-CICS INTERFACE for installation details.

**STEP 8. Setting the Customization Options**

See the Chapter entitled CUSTOMIZATION OPTIONS. Update as required.



## INSTALLATION PROCEDURES

### DETAIL INSTALLATION STEPS - CONTINUED

#### STEP 9.           Activating CAFC's Extended DCT Support

There are two procedures that activate CAFC Extended DCT support.

STEP 9A   Check to see that module AFCP2010 has been placed in the  
                  PLTPI DFHELIM so that it runs during the third stage  
                  of CICS initialization.

During PLT processing, AFCP2010 transfers control to AFCP2DCT which in turn determines the current region's CICS version number. AFCP2DCT then transfers control to the correct DCT PLT program, DCT53, DCT61, DCT62, DCT63, DCT64 and DCT65. These CAFC programs must be marked RES=YES in the PPT.

STEP 9B   Go to the CUSTOMIZATION OPTION MENU, select the symbol for  
                  SUPPORT EXEC CICS.

Enter a 'Y' for 'EXEC CICS SET TDQUEUE' for Extended DCT Support.

The above steps will establish CAFC's interface for DCT activity. The interface allows CAFC to support two functions. First, CAFC will perform automatic DCT allocations/enables and deallocations/disables triggered by CEMT or EXEC CICS open and close commands. Second, CAFC will synchronize DCT file status within CAFC's Table file. The synchronization occurs whenever CEMT set commands or EXEC CICS calls change the status of a DCT queue that is registered to CAFC's Table file.

NOTE: You may deactivate CAFC's extended DCT support by changing the Customization Option setting for 'EXEC CICS SET TDQUEUE' from a 'Y' to an 'N'.

NOTE: DFHEIP and DFHAIP must not be placed in LPALIB for CAFC'S interface with DFHEIPCN to be successful.

## INSTALLATION PROCEDURES

## DETAILED INSTALLATION STEPS - CONTINUED

## STEP 10. Activating CAFC's Extended PCT Support

There are two procedures that activate CAFC Extended PCT support.

STEP 10A Check to see that module AFPCP2010 is placed in the PLTPI after DFHELIM so that it runs during the third stage of CICS initialization.

During PLT processing, AFPCP2010 transfers control to AFPCP2DCT which will establish the needed interface for PCT activity. The PCT intercept logic is built into the AFPCP2DCT module. As with Extended DCT support, the Extended PCT support will load one of the following modules: DCT53, DCT61, DCT62, DCT63, DCT64 or DCT65. These CAFC programs must be MARKED RES=YES in the PPT.

STEP 10B Go to the CUSTOMIZATION OPTION MENU, select the symbol for SUPPORT EXEC CICS. Enter a 'Y' for 'EXEC CICS SET TRAN', for Extended PCT Support.

The interface allows CAFC to monitor PCT status change activity and to update the CAFC Table File TXN record flags for enable/ disable status.

NOTE: You may deactivate CAFC's extended PCT support by changing 'EXEC CICS SET TRAN' option to an 'N'.

The activation of CAFC's extended DCT/PCT support within a region with LPA=YES, requires the removal of CICS programs DFHAIPxx and DFHEIPxx from the LPALIB to avoid a U601 ABEND at startup.

**DETAILED INSTALLATION STEPS - CONTINUED**

**STEP 11.           Activating CAFC's Extended FCT Support**

There are two procedures that activate CAFC Extended FCT support.

STEP 11A       Check to see that module AFCP2010 is placed in the PLTPI after DFHELIM so that it runs during the third stage of CICS initialization.

During PLT processing, AFCP2010 transfers control to AFCP2DCT which will establish the needed interface for FCT activity. The FCT intercept logic is built into the AFCP2DCT module. As with Extended DCT/PCT support, the Extended FCT support will load one of the following modules: DCT53, DCT61, DCT62, DCT63, DCT64 or DCT65. These CAFC programs must be marked RES=YES in the PPT.

STEP 11B       Go to the CUSTOMIZATION OPTION MENU, select the symbol for SUPPORT EXEC CICS. Enter a 'Y' for 'EXEC CICS SET FILE', to activate Extended FCT Support.

The interface allows CAFC to monitor FCT status change activity and to update the CAFC Table File DDname record flags for enable/disable/open/close status.

NOTE: You may deactivate CAFC's extended FCT support by changing 'EXEC CICS SET FILE' option to an 'N'.

Activation of extended DCT/PCT/FCT support and LPA=YES requires the removal of CICS programs DFHAIPxx and DFHEIPxx from the LPALIB to avoid a U601 ABEND at startup.

**STEP 12.           Activating CAFC's Extended Initial Open and Implicit Open FCT Support**

There are two procedures that activate CAFC Extended FCT support.

STEP 12A       Check to see that module AFCP2010 is placed in the PLTPI after DFHELIM so that it runs during the third stage of CICS initialization.

During PLT processing, AFCP2010 transfers control to AFCP2FCS which will establish the needed interface for FCT activity. The FCT intercept logic is built into the AFCP2FCS module. As with Extended DCT/PCT/FCT support, the Extended Initial Open and Implicit Open FCT support will load one of the following modules: FCS53, FCS61, FCS62, FCS63, FCS64 or FCS65. These CAFC programs must be marked RES=YES in the PPT.

## INSTALLATION PROCEDURES

### DETAILED INSTALLATION STEPS - CONTINUED

STEP 12B            Go to the CUSTOMIZATION OPTION MENU, select the symbol for SUPPORT EXEC CICS. Enter a 'Y' for 'INITIAL OPEN', to activate Extended Initial Open FCT Support. Enter a 'Y' for 'IMPLICIT OPEN' to activate Extended Implicit Open FCT Support.

The interface allows CAFC intercept Initial Open requests from CSFU and Implicit requests to open FCT entries from outside transaction and perform allocations for the associated datasets and to monitor FCT status change activity and to update the CAFC Table File DDname record flags for enable/ disable/open/close status.

NOTE: You may deactivate CAFC's extended initial and implicit FCT support by changing the applicable options to 'N'.

Activation of extended DCT/PCT/FCT support and LPA=YES requires the removal of CICS programs DFHAIPxx and DFHEIPxx from the LPALIB to avoid a U601 ABEND at startup.

## SYSTEM CONFIGURATION REQUIREMENTS

### CAFC HARDWARE REQUIREMENTS

CICS Application File Control facility can be used on an IBM processor, such as the IBM System/370, 303X, 308X, 309X, 43XX, 90XX, systems, or IBM plug compatible mainframes with main and external storage capacity and peripheral equipment capable of operating with OS/VS2(MVS) and Z/OS CICS/TS 1.3-3.2.

### CAFC SOFTWARE REQUIREMENTS

The CICS Application File Control facility Release 4.5 is compatible with the following IBM system control software.

- OS/VS2 MVS Release 5.x
- OS/VS2 MVS Release 3.8
- OS/VS2 MVS/SP1
- OS/VS2 MVS/SP2 (MVS/XA)
- OS/VS2 MVS/SP2.2 (MVS/XA)
- OS/VS2 MVS/ESA and (PR/SM)
- OS/390 All Releases
- Z/OS ALL Releases**

- VSAM Release 2
- DFEF
- DFP All releases
- DFHSM All release

- ACF/VTAM Version 2 Release 1, 2
- ACF/VTAM Version 3 Release 1, 2, 3
- ACF/VTAM Version 4 Release 1

- CICS/ESA Transaction Server 1.3
- CICS/ESA Transaction Server 2.1
- CICS/ESA Transaction Server 2.2
- CICS/ESA Transaction Server 2.3
- CICS/ESA Transaction Server 3.1
- CICS/ESA Transaction Server 3.2

- IMS/VS Version 5.1 - 9.1 (DBCTL)

## SYSTEM CONFIGURATION REQUIREMENTS

### CICS SYSTEM CONTROL SOFTWARE REQUIREMENTS

The following DFHSG parameters must be included in the CICS sysgen to support the CICS Application File Control facility:

CICS TS Versions	Description
DFHSG PROGRAM=BMS, BMSFUNC=STANDARD	Basic Mapping Standard or Full Support
DFHSG PROGRAM=TCP, VTAMDEV=(LUTYPE2,LUTYPE6)	Terminal Control Program Session Type 6 LU Support NOTE: LUTYPE6 only required if CAFC's vtam LU6.2 B/I program is to be used.

**MIGRATION PROCEDURES FROM ANY BACK RELEASE**

This section contains instructions for existing CAFC users who are upgrading to (not just replacing load libraries) the most current release of CAFC.

The load libraries for the new release should be brought up in a test environment that parallels your existing environment. You should make a backup copy of your existing CAFC Table File for this test migration. The following Table File generation procedure leaves your original CAFC Table File intact. Run @INST020 or @INST02C to create a new base Table File and Message file. Now run @INST030 to repro your production Table File entries into the new base Table File you just created. Finally run @INST070 to convert the entries in the new base CAFC Table File to the CAFC 4.5 modlevel format. This updated Table File and Message file is absolutely incompatible with all earlier releases of CAFC.

NOTE: You cannot re-map a once converted CAFC Table File back to its original format.

After you perform the first six steps in the Installation procedure, your CAFC Table File will have been converted to the new CAFC 4.5 format. Your new CAFC system and its Table File should be carefully verified using the BROWSE command. Next, you should compare and test the old and new features. Once you have selected the optional features you wish to include in your full installation, you have completed your installation. Cycle each of your CICS regions at least once before placing them into production. These procedures should be performed even if you are refreshing an existing CAFC Release 4.5 system.

Update the DFHRPL concatenation with the new CAFC load library. Update any other libraries that contain CAFC components, including the Batch Interface program, AFCP2016. If you have placed the Batch Interface Program, AFCP2016 in a private library such as a library specified in the LINKLST you must replace it with the CAFC4500 version of AFCP2016 to insure downward compatibility. There are also several other programs that are part of the Batch Interface package that need to be placed in this library along with AFCP2016. They are: AFCT3000, AFCT3053, AFCT3061, AFCT3062, AFCT3063, AFCT3064, AFCT3065, AFCP2LU0, AFCP4316, AFCP4216, AFCP2SOX, AFCP2BSX, AFCP2CCX, AFCP2BCC and AFCPBTX1.

If you haven't done so during an earlier installation, add the following VTAM parameter to each CICS region's APPLID maintained in SYS1.VTAMLST, 'SONSCIP=YES'. Failure to add this statement will lead to a series of

**MIGRATION PROCEDURES FROM ANY BACK RELEASE - CONTINUED**

warning messages and B/I failures. This is not required if you are using the EXCI B/I program.

Compare the functionality of the new release versus your previous release. Carefully review and update the new Customization Options panels and parameters.

Review your existing external exit programs. Some DSECTS may have changed. Below is a list of the DSECTS and the fields that were changed.

AFCDDBISA BISIREQ	DSECT	parameters to AFCP2BSX Batch Interface Security Exit expanded from 5 bytes to 8 bytes
AFCDSOXA SOXIREQ	DSECT	parameters to AFCP2SOX Batch Interface Signon Exit expanded from 5 bytes to 8 bytes
AFCD2007 AF7REQST AF7TYPE2 AF7DATE AF7MSG#	DSECT	parameters to AFCD2008 expanded from 5 bytes to 8 bytes relocated within the DSECT expanded from 6 bytes to 8 bytes expanded from 3 bytes to 8 bytes
AFCDERRS AF7ERRLN	DSECT	associated with AFCD2007 DSECT expanded from 76 bytes to 79 bytes
AFCD2008 AF8FUNC	DSECT	parameters to User Security Program expanded from 5 bytes to 8 bytes
AFCD2017 AFXREQST	DSECT	parameters to AFCP2UEX User Exit Program expanded from 5 bytes to 8 bytes
AFCD2040 AF4MSG#	DSECT	parameters to AFCD2040 Maintenance Program expanded from 3 bytes to 8 bytes

Any user programs, that copy any of the above DSECTS, must be reassembled. Any references to the fields that have changed must be examined to insure the new values will function properly.

NETEC has incorporated many new facilities into Release 4.5 that were previously distributed as custom superzaps enhancements. Check the Customization Option, 'Special Features'. Contact the NETEC customer support staff if you have questions about refitting your site unique superzaps.

**MIGRATION PROCEDURES FROM ANY BACK RELEASE - CONTINUED**



## CAFC RELEASE MAINTENANCE UPGRADES

CAFC Release 4.5 systems no longer uses the following CAFC transactions: AFC1, AFCD, AFCW, DCTN and DCTF. The functions that were performed by these are now handled by the Customization Options, the Utility Services Menu and by the AFCT transaction followed by an operand.

On-line CEMT shut immediate commands are now honored, but they will cause a non-graceful CAFC termination.

If you plan to use CAFC to open and close ddnames with RLS access, you should execute the Synchronize\_RLS command from the Extended CAFC Record Maintenance Facility panel. Execute this command the first time CAFC is started. The utility will read the FCT for all files defined with RLS=YES and set the CAFC ddname record RLS indicator to 'Yes'.

If you plan to use CAFC to allocate FCT ddnames that are defined to CICS as OPENTIME=STARTUP, you must activate CAFC's INITIAL OPEN support option. Review the SUPPORT EXEC CICS options in this manual under the CUSTOMIZATION OPTIONS section.

You CANNOT mix old and new Batch Interface programs. If you plan to run a mixed environment, use the CAFC4500 version of the Batch Interface program. The CAFC Release 4.5 B/I program is downward compatible. Specify the CAFC4500 load library in your Batch JCL. Note that the request completion return codes for error conditions have been refined. Review the Message Manual.

If you are converting from CAFC Release 4.1.01 or an earlier release, add an entry for CAFC's initialization driver program, AFCP2010, to the third stage of PLTPI processing, i.e. after the DFHDELIM. This is now an installation requirement. Program AFCP2010 replaces AFCP2029. If you have AFCP2029 in the PLTPI, REMOVE IT. It is no longer a valid program.

If you are converting from CAFC Release 3.2.02, remove the FCT entry for old CAFC Table File, AFCF0001. Add CAFC's new Table File's ddname, AFCF4000, to the region's startup JCL not to the FCT. AFCF4000 must not be referenced in the FCT.

**MIGRATION PROCEDURES FROM ANY BACK RELEASE - CONTINUED**

Add DD statements to the region's startup JCL for (1) the shareable Message and Help Screen text file, AFCFMSGGS, (2) the override parameter file, CAFCPARM, (3) the request override file, CAFCOVER, (4) the trace output file, CAFCTRAC, and any SYSOUT files that receive on-line audit trail information. The CAFC Table file (AFCF4000) and the message file(AFCFMSGGS) must not be referenced in the FCT. The AFCFMSGGS message file can now be shared between multiple regions. Review Installation Step 5.

If you are converting from CAFC Release 3.2.02, remove the reference to AFCPXRCI from your CICS SIT TBEXITS parameter. This restart exit program is no longer needed.

If you plan to use CAFC's "Early Allocation Facilities" through AFCPSIP, AFCPSIPX or AFCPSIPY, remove the legacy versions of AFCPSIP1, AFCPSIP2 and AFCPSIP3 from your authorized STEPLIB PDS. These programs are now loaded from DFHRPL. This provides better downward compatibility for the AFCPSIP, AFCPSIPX and AFCPSIPY programs.

Any application programs that are being used to link to AFCP2040 must be changed to link to AFCP2503. AFCP2040 is no longer available. Refer to the section for CAFC Extended Tablefile Maintenance Facility. All table maintenance requests require Master authority to execute either from batch or online. Batch jobs performing CHG, ADD, Delete, Purge, Copy commands will be required to have Master authority for these requests to be successful.

**REFRESHING A CAFC RELEASE 4.5 SYSTEM**

The recommended approach for reinstalling CAFC includes installation STEPS 1 through 6. Insure that you have completed all sub steps of STEP 6.2 for EXISTING CAFC USERS. After you have successfully completed these steps, your Table File will be ready to be validated against your existing CAFC environment. The conversion process sets defaults for new customization options that may not have existed in the previous maintenance level. All other options are left untouched. Review any new default options. Occasionally the new defaults may conflict with your existing operations.

1. Unload the CAFC LOAD and MACRO LIBRARIES from the distribution media to DASD using the JCL stream in the INSTLIB member, @INST045 or @INST45C.
2. Follow the instructions in STEP 3 of the Installation Guide, "Update CICS Table Entries". Due to NETEC's continuing enhancement program, there may be new CICS resources that need to be placed in the proper CICS tables or the CSD.
3. Replace your existing AFCFMSGs file with the new one created using @INST020 or @INST20C.
4. Use the JCL stream in the INSTLIB member @INST070 to perform a CAFC Table File conversion. You may run the new conversion program more than once without harming your Table Files.
5. Update the DFHRPL concatenation with the new CAFC load library
6. Skip this change if you are using the CAFC EXCI B/I program. If you haven't done so during an earlier installation, add the following VTAM parameter to each CICS region's APPLID maintained in SYS1.VTAMLST, 'SONSCIP=YES'. Failure to add this statement will lead to a series of warning messages and B/I failures.
7. Update any other libraries that contain CAFC components, including the Batch Interface program, AFCP2016. If you have placed the B/I program, AFCP2016, in a private library such as a library specified in the LINKLST, you must replace it with the CAFC4400 version of AFCP2016 to insure downward compatibility. There are also several other programs that are part of the Batch Interface package that need to be placed in this library along with AFCP2016. The programs are: AFCT3000, AFCT3053, AFCT3061, AFCT3062, AFCT3063, AFCT3064, AFCT3065, AFCP2LU0, AFCP4316, AFCP4216, AFCP2SOX, AFCP2BSX, AFCP2CCX, AFCP2BCC AND AFCP2BTX1.

**REFRESHING A CAFC RELEASE 4.5 SYSTEM-CONTINUED**

8. Compare the functionality of the new release versus your previous release. Carefully review and update the new Customization Options panels and parameters.
9. Review your existing external exit programs. They must be reassembled with the new macro libraries and tested.
10. Contact the NETEC customer support staff if you have questions about refitting your site unique superzaps.
11. The latest CAFC Release 4.5 systems no longer support the following CAFC transactions: AFC1, AFCD, AFCW, DCTN and DCTF. The functions performed by the above are now handled by Customization Options, the Utility Services Menu or by the AFCT transaction followed by an operand.
12. If you will be using CAFC to allocate FCT ddnames that are defined to CICS as OPENTIME=STARTUP, you must activate CAFC's INITIAL OPEN support option. Review the SUPPORT EXEC CICS options in this manual under the CUSTOMIZATION OPTIONS section.
13. If you plan to use CAFC's Early Allocation Facilities, AFCPSIP, AFCPSIPX and AFCPSIPY, remove AFCPSIP1, AFCPSIP2 and AFCPSIP3 from the STEPLIB PDS. These programs will be loaded out the DFHRPL. The new versions of AFCPSIP, AFCPSIPX and AFCPSIPY should be copied into your authorized STEPLIB PDS.
14. Any Application programs that are used to link to AFCP2040 should be changed to link to AFCP2503. AFCP2040 is no longer available. Refer to the section for CAFC Extended Tablefile Maintenance Facility. All table maintenance requests require Master authority to execute either from batch or online. Batch jobs performing CHG, ADD, Delete, Purge, Copy commands will be required to have Master authority for these requests to be successful.

**MIGRATION CHECK LIST**

The following is a summary of the most common errors our users experienced when migrating from an older version of CAFC to CAFC Release 4.5.

1. Convert your CAFC Table File following the instructions in Step 6 of the DETAILED INSTALLATION STEPS. Follow each sub-step. DON'T TAKE SHORT CUTS.
2. You must reassemble all of your CAFC user exit programs using the new macro libraries and the new DCECTS. If you are using the standard, LOADLIB supplied versions, you may skip the assemblies.
3. If you are using the B/I to start user written CICS transactions or programs from batch (not CAFC functions), review the sections on the TRAN, STRT, EXEC and XCTL requests. TRAN (LU0) and STRT (LU6.2) were enhanced. They offer an expanded control card format. The improved STRT request initiates transactions that do not send confirmation responses to the initiating CICS terminal. It offers a data area that can be passed with the tranid.
4. If (1) you are using the AFCT2016 batch APPLID ACB association table, the AFCT2016 Table **MUST BE REASSEMBLED** with the new macro libraries.
5. CAFC error messages now have a four-position number associated with them. This text is stored in a separate file, AFCFMSGGS, which can be shared across regions. You may have to rewrite user documentation describing error conditions. Check that a DD statement for AFCFMSGGS is present in each region's startup JCL and that it references the CAFC4500 message file. The key length for all messages has changed along with adding many new messages for CAFC Release 4.4. If you skip this step, many error and warning messages will be hidden. In some cases CAFC will not initialize. One symptom for a missing AFCFMSGGS DD statement is error message numbers appearing without the message text.
6. On-line security can be established at the resource level through new security interface programs for RACF, TopSecret and ACF2.

**MIGRATION CHECK LIST-CONTINUED**

7. The Customization Options have been expanded. Review them and set the parameters to match each region's specific needs.
8. CAFC no longer performs explicit verifies. CICS and the VSAM control programs automatically handle VSAM verifies for each open.
9. If you plan to use (1) DFHSM recall support, (2) the DFHRPL SRCH transaction, (3) the SHUT transaction, (4) the DFHRPL reconcatenation facility, or (5) any of the extended support facilities for transactions, transient data queues or DLI, insure that you perform the DFHDEB70 install procedure described in Installation Step 2. Run the AFAC transaction to verify that CAFC's APF authorization method is properly installed.
10. Change the ddname for CAFC Table File to AFCF4000. The DD statement for this file must be present in CICS startup JCL. If it is missing, you will experience an AFCF ABEND.
11. The CAFC initialization PLTPI program AFCEP2029 no longer exists. Remove AFCEP2029 from the PLTPI and from your PPT or CSD. AFCEP2029 has been replaced by AFCEP2010. Place AFCEP2010 after the DFHDELIM in your PLTPI table and reassemble.
12. The CAFC AFCSTART SIT override facility, that controls the warm starting of CICS resources, has been replaced by CAFCPARM. Warm Start overrides are now specified as sysin parm data with a ddname of CAFCPARM. Remove any reference to AFCSTART from your CICS JCL. See the chapter entitled 'CICS STARTUP CONSIDERATIONS'.
13. If you have applications which issue implicit open requests such as READ, BROWSE, DELETE, UNLOCK, or STARTBR and expect the FCT entry to be open on first access, you must activate the IMPLICIT OPEN Extended Support Option for CAFC to intercept the request and perform an automatic dynamic allocations. Review the chapter on Customization Options - Support EXEC CICS.

**MIGRATION CHECK LIST - CONTINUED**

14. Update any other libraries that contain CAFC components, including the Batch Interface program, AFCP2016. If you have placed the Batch Interface Program, AFCP2016 in a private library such as a library specified in the LINKLST you must replace it with the CAFC4500 version of AFCP2016 to insure downward compatibility. There are also several other programs that are part of the Batch Interface package that need to be placed in this library along with AFCP2016. They are: AFCT3000, AFCT3053, AFCT3061, AFCT3062, AFCT3063, AFCT3064, AFCT3065, AFCP2LU0, AFCP4316, AFCP4216, AFCP2SOX, AFCP2BSX, AFCP2CCX, AFCP2BCC AND AFCP2BTX1.
15. If you haven't done so during an earlier installation, add the following VTAM parameter to each CICS region's APPLID maintained in SYS1.VTAMLST, 'SONSCIP=YES'. Failure to add this statement will eventually lead to a series of warning messages followed by B/I failures. Skip this update if you are using the EXCI B/I program.
16. Remove AFCP2DLI from the startup PLTPI when upgrading from CAFC Release 4.1.01.
17. Remove AFCP2DCT from the startup PLTPI when upgrading from CAFC Release 4.1.01.
18. If you need to have specific DCT files allocated and available during CICS initialization, place both the CAFC modules AFCPSIP and AFCPSIPY in an authorized CICS library. Review the chapter in this manual, CICS STARTUP CONSIDERATIONS, the paragraph titled "Early Allocation Requirements".

**MIGRATION CHECK LIST - CONTINUED**

19. If you decide NOT TO ACTIVATE CAFC's extend DCT automatic allocation support, then you must insure: (1) that your DCT files are placed in your CICS startup JCL or (2) they are pre-allocated by AFCPSIP3 and AFCPSIPY. Frees may still be performed using explicit CAFC close and free requests.
20. Any application programs that are used to link to AFCP2040 should be changed to link to AFCP2503. AFCP2040 is no longer available. Refer to the section for CAFC Extended Tablefile Maintenance Facility. All tablefile maintenance requests require Master authority to execute either from batch or online. Batch jobs performing CHG, ADD, Delete, Purge, Copy command will be required to have Master authority for these requests to be successful.
21. CAFC Release 4.5's non-3270 support transaction name for a sequential terminal has changed. The new name is AFSQ instead of AFCC. Use the AFSQ transaction to issue CAFC requests from the operators console or from a sequential terminal. Use the AFCC transaction to directly enter 3270 CAFC requests without having to log on to CAFC through the AFCS tranid.
22. The B/I sign-on security has been enhanced. You now secure the B/I sign-on for ACF2, TopSecret and RACF by passing sign-on information within the Function Management Header FMH5. The EXCI B/I uses normal MRO security.
23. If you will be using CAFC to allocate FCT ddnames that are defined to CICS as OPENTIME=STARTUP, you must activate the INITIAL OPEN support option. Review the SUPPORT EXEC CICS options in this manual under the CUSTOMIZATION OPTIONS section.
24. If you plan to use CAFC's Early Allocation Facilities, AFCPSIP, AFCPSIPX and AFCPSIPY, remove AFCPSIP1, AFCPSIP2 and AFCPSIP3 from the STEPLIB PDS. These programs will be loaded out the DFHRPL. The new versions of AFCPSIP, AFCPSIPX and AFCPSIPY should be copied into your authorized STEPLIB PDS.



**CAFC FEATURES AND CONSIDERATIONS**

This section deals with optional facilities that you may wish to use in one or more of your CICS regions. The topics listed are:

- Removing application file JCL statements from your CICS startup procedures
- CICS startup management
- Security within the CAFC system
- Using one of CAFC's B/I facilities for CAFC commands
- Using one of CAFC's B/I facilities to execute a CICS program
- Using the B/I Terminal Processor to execute a CICS transaction
- Hierarchical Storage Manager support
- DFHRPL Library Management
- File locking facilities
- Using CAFC On-Line User Exits
- DBCTL requests to start and stop remote IMS databases
- Extended EXEC CICS interface and CEMT support for activity against DCTs, FCTs, DLI Databases and transactions
- MRO region selection screen
- Enhanced resource management on a status change
- Automatic Status Message management
- CAFC table file maintenance facilities
- DFHRPL SRCH Transaction to locate load libraries
- CAFC Message Facility
- Alternative DSNAMES Facility
- Symbolic DSNs
- CAFC TSO ISPF Log Viewer
- CAFC System Logger

**CAFC FEATURES AND CONSIDERATIONS - CONTINUED**

- Extended Table Maintenance
- AFDB transaction to start and stop DBCTL connection.
- Exclude table
- Online reporting

**REMOVING DD STATEMENTS FROM CICS'S JCL**

To take full advantage of CAFC's facilities, define all of your CICS application files to CAFC. This will enable your installation to remove all of the application DD statements from the CICS startup JCL. There are two exceptions: the CAFC's Table File, and the CAFC Message File. The ddnames for these two files must remain in the CICS startup JCL. The VERIFY step for VSAM Base Clusters and VSAM Alternate Indexes should be removed from CICS's JCL. These actions eliminate potential JCL errors, initiator enqueues, and the time it takes for unnecessary file verifies.

Before deciding to remove DD statements from the CICS jobstream, your processing requirements for Emergency Restart, Warm Start, and Cold Start need to be reviewed.

In the case of a Cold Start, the files marked OPEN=INITIAL in the DCT must be allocated before CICS attempts to open these files. If your user DCT files are not already allocated, the opens will be unsuccessful. If you experience open failures for these DCT files, review the section entitled AFCPSIPY Early Allocation Options. Follow the installation instructions for the Early Allocation programs. These modules will pre-allocate all DCT entries defined to CAFC before normal SIP processing begins. If a dataset is migrated, a recall is issued by AFCPSIP3 and allocation is skipped.

With CICS TS 1.3 and above, there is no reason to pre-allocate or pre-open a FCT file prior to first use. CAFC will insure that your FCT files are either enabled or optionally opened by the end of PLT processing. Make sure that CAFC's PLTPI program, AFCP2010, runs during the third stage of PLT initialization so it can activate its processing programs AFCP2DCT, AFCP2FCS and AFCPWARM. These programs help to ensure that your files and databases will be set to a status that will allow CICS or CAFC to dynamically allocate or open them upon first access or at the time CSFU issues the actual open request.

**REMOVING DD STATEMENTS FROM CICS'S JCL - CONTINUED**

There are 6 methods for defining files to CAFC.

1. Use the JCL Conversion Utility, AFCEP2023. This batch utility creates ddname entries from your existing JCL statements. Review the section entitled "Creating CAFC DDname Table Entries from JCL Statements".
2. Use the Batch Transfer Utility, AFCEP2020. This batch utility transfers ddname entries from an existing CAFC Table File to your new Table File. Review the section entitled "Transfer CAFC Table Entries Between CAFC Table Files".
3. Use the Extended CAFC Record Maintenance Facility to create ddname, records from FCT and DCT entries. Review the section entitled "Generate DDname Records from FCT" and "Generate DDname Records from DCT".
4. Use the AFCS transaction and CAFC's online edit facility to define ddname entries. Review the section entitled 'Editing CAFC Tables' in the CAFC User Documentation.
5. Use the B/I to add new entries to the CAFC Table File.
6. Use CAFC's on-line maintenance transaction, AFC5, to add new entries to the CAFC Table File. The maintenance program, AFCEP2503, may also be called from you custom written maintenance applications.
7. Use the Extended CAFC Record Maintenance Facility to create any type of entry for the tablefile. This facility can be used online or from batch to create ddname entries, transaction entries, application lists and group lists as well as a number of table management utilities.

Once you have defined all application files to CAFC, remove the application files' DD statements from the CICS startup JCL.

There are two files that you cannot dynamically allocate: (1) CAFC's own Table File, AFCEP4000, and CAFC's Message File, AFCEPMSG. You must include a DD statement in the start-up JCL for each CICS region for these two files. We recommend you add two other dds, CAFCTRAC and CAFCOVER. The CAFCTRAC is CAFC's on-line output trace data set while CAFCOVER contains requests that override the CAFC Warm Start file status.

**CICS STARTUP UNDER CAFC**

For many installations CICS restarts can cause problems that require complicated manual intervention to set files and transactions to the correct status. Invariably some files end up closed or disabled when they should be opened or at least enabled. VSAM files end up with improper service request status. Transactions end up disabled when they should be enabled. Some files end up being migrated by HSM, thus causing long allocation waits and locked up application systems. These problems are not necessarily human errors. They are the result of CICS's own internal logic. To circumvent these problems, many shops cold start their regions and incur an unnecessarily long startup delay. Other shops have resorted to OPENing every file that could possibly be used during a session. This circumvention also wastes resources and manpower and delays the startup of CICS. These circumventions unnecessarily complicate on-line operations and reduce the end user's window of uptime.

With CAFC's CICS startup facilities, your files and transactions will always be set to their proper status. It does not matter how the files were left at the end of the previous CICS session. It does not matter if seldom-used files have been migrated by DFHSM. It does not matter how you are restarting CICS, Cold, Warm or Emergency. Your files and transactions, and the applications they support, will always be ready when CICS comes up. Your restarts will be quick, reliable and you may be able to eliminate all of your corrective startup procedures. Carefully review the Customization Options for CICS Initialization along with the overrides at the individual resource level. Review the Chapter entitled CICS STARTUP CONSIDERATIONS. Once you have (1) set the region wide customization options and (2) set the individual DDname and transaction warm start overrides, you will have a stable, trouble free startup environment.

**SECURITY WITHIN THE CAFC SYSTEM**

The CAFC product offers access security for both on-line and Batch Interface requests. The level of on-line security enforced in CAFC's main transaction, AFCS, is set by selecting one of four options. The options are displayed on the Security Customization Options panel. The default on-line security value is "B" or Basic CAFC Security. The on-line exit for external security is covered in detail in the CUSTOMIZATION OPTIONS under SECURITY/ AUDIT AUTHORIZATION OPTION. The B/I's external security exit programs are covered in the Chapter entitled CAFC VTAM LU6.2 BATCH-TO-CICS INTERFACE.

**ON-LINE SECURITY SUMMARY****NO SECURITY**

CAFC users are not required to enter a userid and password on the Sign-on screen prior to going to the Primary Option Menu. Any user can browse, edit, or use any entry in any CAFC Table File except the Userid Table. Access to the Userid Table requires a userid signed-on with Master Password authorization.

**BASIC CAFC SECURITY**

CAFC users are required to enter userid and password on the sign-on screen prior to going to the Primary Option Menu. CAFC Security Codes are enforced on each entry. The Password Maintenance Panel is accessible. The default security value for the base CAFC product is set to BASIC SECURITY active. Initially, each region's security is controlled the Customization Panel, SECURITY/ AUDIT AUTHORIZATION OPTIONS. The default security values are:

Security Flag value ==> B, use CAFC's basic internal security.

Default Program Name ==> Blank, no external security program.

The Basic Security option does not expect to find an external security exit program specified.

**RACF/ACF2 SECURITY**

(NETEC supplied interface program) - Access to all of CAFC's operations will be allowed or denied through standard RACF security facilities. Terminal sign-on will be accomplished with the standard CICS CESN transaction. Resource names will be defined to RACF or ACF2 using the standard security administrator's interface. For more details, review SECURITY/AUDIT OPTIONS in the CUSTOMIZATION OPTIONS chapter.

**ON-LINE SECURITY SUMMARY- CONTINUED****EXTERNAL SECURITY**

User sign-on is required based upon the setting of the Sign-on Required Flag. All attempts to browse, edit or use any entry in any CAFC Table File will be authorized by an external, user written program.

Access to the CAFC Userid Table requires a userid signed on with MASTER password authorization.

User written External Security Exit Programs must be CICS Command Level programs with a legitimate entry in the PPT. Sample External Security programs for RACF, ACF2 and TopSecret are provided on the Installation Tape. The External Security Exit is the interface point for in-house and commercial CICS access control systems. User written External Security Programs are passed the parameter fields in the COMMAREA. These parameter fields are documented in the copy member AFCD2008. If you install a user written External Security Exit Program, the program name must be entered on the SECURITY/AUDIT Customization Option panel.

When you update one of the NETEC supplied external security exit programs, your logic will also control access to the CAFC Customization Screens. The security exit reformats all CAFC requests for your external security package via a parameter list. The source for the sample external security exit programs is stored in the INSTLIB PDS of the distribution tape. See the CUSTOMIZATION OPTIONS chapter, the section entitled, SECURITY/AUDIT AUTHORIZATION, for more details.

**BATCH INTERFACE SECURITY SUMMARY**

CAFC is distributed with two Batch Interface external security exit programs, AFCP2BSX and AFCP2SOX. Program AFCP2SOX(LU6.2 B/I only) monitors the sign-on/sign-off activity by the Batch Interface whenever a job attempts to communicate with a CICS region. Program AFCP2BSX monitors all commands sent to a CICS region from the CAFC Batch Interface. It controls whether the Batch Interface Program will pass the request to the target CICS region. The commands that make up a request include: standard CAFC functions, CEMT requests, requests to start CICS user transactions and requests to start CICS programs. The above exit programs are described in the Chapter, CAFC VTAM LU6.2 BATCH-TO-CICS INTERFACE. The logic in these two exit programs allows the modification of the request statements before they are sent to CAFC's on-line components. AFCP2SOX also handles security for RACF, ACF2, and Top Secret batch request sign-ons for the CAFC LU6.2 B/I.

**ON-LINE SECURITY SUMMARY- CONTINUED**

After these exit programs allow the batch request to be passed to the target CICS region, the request can be further controlled by standard CICS Sign-on processing. This is accomplished by passing Sign-On information to the CICS region within the Function Management Header (FMH5) attached to the CAFC requests.

**USING THE B/I FOR CAFC REQUESTS AND CICS TRANIDS**

The CAFC Batch Interface (B/I) program allows users to issue CAFC and CICS commands to a CICS region, to a DBCTL region and to a VSAM control region from a batch job stream. The B/I program communicates to CICS through (1) a CAFC provided ACF/VTAM LU6.2 connection, or (2) a native CICS connection using the External CICS Interface (EXCI), or a direct update to the CAFC table file. Review and install the Batch Interface to support resource requests and confirmations for your on-line and batch operations. This facility's major benefits are:

- Reduced reliance on manual procedures, on CICS operators and on MVS console operators.
- Improved batch throughput because files are made available on demand.
- More timely information for on-line applications, because files can easily be updated several times a day versus once at night.
- Fewer reruns because your batch scheduling system will always have the files it needs for its batch jobs.
- Expanded on-line availability because read only applications remain concurrently active during batch updates.
- Reduces scheduling constraints because batch updates no longer depend on available human resources.
- Start critical CICS system and user transactions and programs from batch job streams.



**USING THE B/I TO EXECUTE A CICS PROGRAM**

This facility allows a batch job stream to directly execute a CICS program via CAFC's B/I programs. There are three execution modes.

EXEC requests run the user program synchronously; that is, the AFCB (B/I Transaction) WILL WAIT until the user program has completed before returning control to the B/I. A 45-character CICS commarea may be passed from the batch request to the executing user program.

XCTL requests run the user program asynchronously; that is, CAFC's on-line B/I components will start the CAFC AFCE transaction in the background which in turn performs an EXEC CICS XCTL PROGRAM to the user program. The AFCB (B/I Transaction) WILL IMMEDIATELY RETURN control to the B/I. A 45-character CICS commarea may be passed from the batch request to the executing user program.

XPGM requests run the user program synchronously much like the EXEC request. The XPGM request starts the AFCX transaction on a sequential terminal then the AFCX program links to the user program with inputmsg. The batch interface transaction AFCB will wait 5 minutes for the user program to complete. A 45-character CICS commarea may be passed with the program to be executed.

**USING THE BATCH TERMINAL PROCESSOR**

The Batch Terminal Processor (BTP) is an extension to the B/I. It routes CICS conversational transactions via the TRAN request from batch jobs to CICS. The TRAN request should be used whenever a transaction generates a response. The BTP returns the response back to the initiating terminal (batch job). The response is then placed in an area which can be interrogated through the AFPCBTX1 user exit. In contrast, the standard Batch Interface's STRT request initiates user written transactions and optional input data that DO NOT generate a response.

The Batch Terminal Processor's TRAN and the B/I's STRT requests provide a basic CICS batch terminal simulators. Each will start a user written or a CICS provided transaction on CICS. If necessary the BTP TRAN request supports a conversation between the batch job step and CICS. TRAN's facilities can simulate function keys and the keying of data. You may use TRAN and STRT requests to issue standard CICS transactions and CEMT commands. STRT requests can forward a data area with the tranid. STRT requests are valuable for transactions the use retrieve data logic rather than a receive data instruction. Both TRAN and STRT can be used to set time and date information to initialize CICS application Systems. Their installation is trivial once the CAFC LU6.2 or EXCI B/I is up and running. TRAN requests are described in the section entitled BATCH TERMINAL PROCESSOR - TRAN REQUEST. STRT requests are described in the section entitled BATCH INTERFACE - STRT REQUESTS.

**HIERARCHICAL STORAGE MANAGER SUPPORT**

With the increased usage of IBM's Hierarchical Storage Manager, DFHSM, CICS installations, that are not using CAFC, have experienced delays and region lockouts whenever "migrated" data sets must be dynamically allocated. These conditions normally occur whenever a migrated data set is allocated via SVC 99. Control, to allow other allocations to start, is not returned to CICS until the current data set has been fully restored to DASD from the archive-media. SVC 99 is a single threaded facility. Therefore, it cannot be used for subsequent allocations until the migrated data set is successfully processed. If the archive-media is magnetic tape, the delay is dependent upon the length of time it takes the tape operator to mount the tape and respond to the mount message. All subsequent allocation requests are queued up and CICS waits.

To minimize the impact SVC 99's single threading, CAFC offers optional HSM support that will detect DFHSM migrated data sets before the an allocation request is issued. When CAFC encounters a migrated data set, it schedules its own MVS RECALL request and postpones the data set allocation request. SVC 99 is not committed until CAFC has determined that the data set has been staged and is in a state where it can be readily allocated. This eliminates long waits in the CICS region, when CICS is waiting on an allocation. CAFC will only request an allocation when the data set is truly available. While CAFC is waiting for DFHSM to stage a data set, other requests for dynamic allocation are simultaneously honored if they can execute without waits. Optionally, CAFC offers a RECALL ONLY facility that can be run during (1) CAFC's management of the CICS initialization or (2) during normal on-line operation.

MVS RECALL requests require APF authorization; therefore, CAFC must be authorized prior to issuing RECALLs. Ensure that you have installed CAFC's DFHDEB70 APF authorization module. Verify the installation with the AFAC transaction.

**DFHRPL LIBRARY MANAGEMENT OVERVIEW**

CAFC supports dynamic reconcatenation of DFHRPL. This feature adds flexibility to your operation, since CICS is designed to operate with a "static" DFHRPL concatenation. CAFC's dynamic reconcatenation must be used with care. For example, the PDSs that contain CICS's modules and CAFC's own modules should never be removed from the DFHRPL concatenation. CAFC's support for dynamic reconcatenation of DFHRPL allows a user to:

Retrieve and save the current or other versions of the CICS DFHRPL for subsequent modification.

Add or insert a PDS(library) into a RPL list.

Remove a PDS(library) from a RPL list.

Rearrange the order of the PDSs in a RPL list.

Once the reconcatenation process reaches a certain point, it becomes necessary to inhibit all CICS loader activity for the region until reconcatenation completes. This can affect region performance. CAFC schedules as much preliminary activity as possible before this critical point. This scheduling ensures that the reconcatenation can be accomplished successfully with minimal impact on your end users.

For those modules in storage at the time the reconcatenation occurs, only the relative concatenation number is updated in the DASD address field of the affected PPT entries. If these modules have been modified, and need to be NEW COPIED, use the standard CICS CEMT new copy commands. A module does not need to be new copied, if it was not in storage prior to reconcatenation.

There are four steps in the normal procedure for modifying and reconcatenating an existing RPL.

Invoke the RPL List editor by entering an 'AR' for TABLE TYPE on the EDIT ENTRY MENU. Enter a blank in the TABLE NAME field if you are unsure of the spelling. A blank will cause a list of all of the previously defined RPL lists to be displayed.

Place an 'S' for select in the cursor field preceding one of the list names. This will invoke the RPL List Editor. Make your changes and SAVE the modified RPL list.

Go to the PRIMARY REQUEST MENU. Entering an 'AR' for TABLE TYPE, will cause the RPL LIST REQUEST MENU to be displayed. Enter 'RPL' in the REQUEST field and enter RPL list name you wish to reconcatenate in the NAME field. Then hit ENTER.

Use the CEMT NEW COPY command as required.

**DFHRPL LIBRARY MANAGEMENT - CONTINUED**

A CAFC RPL list, known as an APPLRPL, is similar to an Application list. The RPL list, however, contains a list of symbolic ddnames that are always associated with a data set (PDS) load library name. The RPL ddnames are symbolic because there are no real CICS resources related to them. RPL ddnames are defined as type 'R' ddname entries. Normal CAFC commands will not operate against these symbolic 'R' ddname entries. Individual RPL DDname entries may be created in two ways; either through a ddname edit session or through a RPL LIST EDITOR session.

**DEFINING INDIVIDUAL RPL DDAME ENTRIES THROUGH EDIT**

As with normal ddnames, you can create and edit symbolic RPL ddname entries from the EDIT ENTRY MENU using a 'DR' type entry. A 'DR' entry contains a symbolic ddname, a data set name, a disposition of 'SHR' and two 32 byte optional user fields. Once these symbolic ddnames and their corresponding dsnames (PDSs) have been defined, you must invoke the CAFC RPL LIST EDITOR to build your RPL lists. Entering an 'AR' type from the EDIT ENTRY MENU, invokes the RPL List Editor.

You may directly invoke the RPL LIST EDITOR, before creating any 'DR' ddname entries, by entering an 'AR' for RPL lists from the EDIT ENTRY MENU. This action allows you to (1) create individual 'DR' symbolic ddname entries and (2) create or edit an RPL LIST within a single session.

Below is an example of the EDIT ENTRY MENU with an 'AR' for RPL LIST in the TABLE TYPE field. This will invoke the RPL LIST EDITOR.

```

+-----+-----+-----+-----+-----+-----+-----+-----+
|-----|          EDIT ENTRY MENU          |-----|CAFC PANEL# 202|
|ENTER/VERIFY PARAMETERS BELOW|
|TABLE TYPE  ==> AR|
|ENTRY NAME  ==>          (BLANK FOR ENTRY SELECTION LIST)|
|
|TYPE      TABLE DESCRIPTION          TYPE      TABLE DESCRIPTION
|D          ALL DDNAMES                 I          DLI DATABASE LISTS
|DD         FCT DDNAMES                 T          TRANSACTIONS
|DT         DCT DDNAMES                 A          APPLICATION LISTS
|DU         USER EXIT DDNAMES           AR         RPL LISTS
|DO         NON-CICS DDNAMES             G          GROUP LISTS
|DR         RPL DDNAMES                  U          USERIDS
|DI         IGNORE DDNAMES              RL         MESSAGE FACILITY ROUTE LISTS
|                                     SL         MESSAGE FACILITY SUB LISTS
|                                     GL         MESSAGE FACILITY GLOBAL ROUTE LISTS
|
|PF1-HLP  PF2-2ND SES  PF3-END  PF4-RET          PF9-ALT SES
+-----+-----+-----+-----+-----+-----+

```

**DFHRPL LIBRARY MANAGEMENT - CONTINUED****USING THE CAFC RPL LIST EDITOR**

You invoke the CAFC RPL List Editor by entering an 'AR' in the TABLE NAME field of the EDIT ENTRY MENU. At this point, you have three choices. You can (1) enter the name of an existing RPL list in the NAME field, (2) enter a BLANK name to retrieve a list of all of the RPL lists stored on the CAFC Table file or (3) enter a new list name to create a new RPL list. Actions (1) and (3) immediately invoke the RPL LIST Editor.

If you entered a blank in the NAME field, the EDIT TABLE display for all APPLRPL entries will be retrieved. Now, if you place an 'S' for select in the cursor field preceding one of the RPL LIST names, the RPL List Editor is then opened for the selected APPRPL list as shown below.

----- EDIT TABLE = APPLRPL -----							-----CAFC PANEL# 203	
COMMAND INPUT ==>							SCROLL ==> PAGE	
TYPE	NAME	CREATED BY	CREATE DATE	LAST UPDATED		MOD	UPDATED BY	
_ AR	RPLA	MASTER	03/15/95	04/04/95	23:48	031	MASTER	
_ AR	RPLB	MASTER	03/16/95	04/01/95	19:08	002	MASTER	
_ AR	RPLC	MASTER	02/22/95	03/16/95	11:29	023	MASTER	
S AR	RPLX	MASTER	03/27/95	04/06/95	20:56	005	MASTER	
_ AR	RPLGOOD	MASTER	03/31/95	05/01/95	17:40	002	MASTER	
PF1-HLP PF2-2ND SES PF3-END PF4-RET PF7-BWD PF8-FWD PF9-ALT SES								

The RPL editor can be used to directly create new RPL type 'DR' symbolic ddname entries and to include previously defined 'DR' entries into a new APPLRPL RPL list. The editor also allows load libraries, included in the current CICS DFHRPL, to be added to the RPL list now opened. In this case the editor automatically assigns symbolic ddnames to associate each of the current CICS DFHRPL PDS load libraries. The automatically generated ddnames are in the form of \$RPLnnnn.

The order, in which the symbolic RPL ddnames are listed, determines their relative order within the concatenation. Entries in a RPL APPLRPL list will never be sorted regardless of the Customization Sort Option setting. The PF-3 key must be hit before changes are made or new entries are saved.

**DFHRPL LIBRARY MANAGEMENT - CONTINUED**

Below is a sample editor screen that would result if you placed a 'S' before the APPRPL list named RPLX on the EDIT TABLE of the RPL lists.

```

+----- EDIT TABLE = APPLRPL      ENTRY= RPLX      -----CAFC PANEL# 227
COMMAND INPUT ==>                                SCROLL ==> PAGE
REQUEST DATE   : 04/02/95 UPDATE DATE   : 04/06/95 CREATION DATE : 03/27/95
REQUEST TIME   : 21:58   UPDATE TIME   : 20:56   CREATED BY    : MASTER
REQUESTED BY   : CICSUSER UPDATED BY   : MASTER   UPDATE COUNT   : 005
LAST REQUEST   : RPL     STATUS MESSAGE : NO ERRORS
DESCRIPTION    ==>
CAFC SECURITY  ==> 0 (0 - 3)                                ITEM COUNT ==> 8
                                                           ITEM ERRORS ==>

      DDNAME      -----DATASET NAME-----      DISP
-   $RPL0024      CICS330.SDFHLOAD                      SHR
-   $RPL0025      NTEC.CICSQ.TABLELIB                    SHR
-   $RPL0026      SYS3.OCRV550.TGTII.LOADLIB              SHR
-   $RPL0027      NTEC.CAFC4200.LOADLIB                   SHR
-   $RPL0028      NTEC.CDDF5000.LOADLIB.DIST              SHR
-   $RPL0006      NTEC.CQCF40QA.LOADLIB.DIST              SHR
-   RPLGOOD1      NTEC.MISCAPPL.LOADLIB                   SHR
-   RPLTEST2      NTEC.NEWAPPLS.LOADLIB                   SHR
(I)nsert (D)elete (R)epet (M)ove (C)opy (A)fter (B)efore
PF1-HLP PF2-2ND SES PF3-END PF4-RET PF7-BWD PF8-FWD PF9-ALT SES

```

**USE OF PF-KEYS IN THE RPL EDITOR**

Much like ISPF, PF key-8 will scroll the display one scroll increment forward in the RPL list. PF key-7 will move the display one scroll increment backward in the RPL list. PF key-3 will cause the RPL list to be SAVED to the CAFC Table File and exit the RPL editor. The available PF keys are displayed at the bottom of the screen.

**COPYING OTHER RPL LISTS INTO THE RPL EDITOR SESSION**

The external COPY command, when specified with another APPLRPL list name, will copy that APPLRPL list into the APPLRPL list currently being edited. The external COPY command, entered in the 'COMMAND INPUT ==>' area, will place the APPRPL datasets (PDSS) at the user specified insertion point. The default insertion point is the top of the RPL concatenation list. The insertion point can be controlled by the edit BEFORE or AFTER line mode commands.

**DFHRPL LIBRARY MANAGEMENT - CONTINUED****COPYING THE CURRENT DFHRPL CONCATENATION**

The external COPY command, when specified with the 'DFHRPL' operand, will create unique, symbolic ddnames for all datasets contained in the current RPL concatenation. With this operand, the COPY command places the RPL information into the edit screen at the BEFORE or AFTER position selected by the user. These ddnames are created with a prefix of \$RPL followed by a sequential number from 0001 through 9999. This implies that a maximum of 9,999 generated ddnames can be contained in the region's CAFC Table File. Each of these ddnames can be alternately displayed or modified using a standard ddname edit session. RPL ddnames require an entry type specification of 'DR' from the EDIT ENTRY MENU. The RPL List editor, however, is generally a more convenient editing solution than a ddname edit session.

**UTILIZING PREVIOUSLY DEFINED RPL DDNAMES**

When a DDNAME is specified in the DDNAME field of the RPL editor, the editor checks to see if this DDNAME has previously been defined to the CAFC Table File. If (1) the DDNAME is found and (2) it is not a TYPE=R ddname entry, the editor will deny use of that DDNAME. If (1) the DDNAME is found and it is a TYPE=R entry and (2) the DATASET NAME field within the RPL editor is blank, the editor will move the dsname of existing DDNAME record into the DATASET NAME field of the RPL EDITOR line. If (1) the DDNAME is found and it is a TYPE=R entry, and (2) the DATASET NAME field of the editor has been supplied by the user, the existing TYPE=R ddname entry will be modified to contain the current editor contents when a SAVE command or a PF-key 3 is entered.

**RPL EDITOR LINE MODE COMMANDS**

RPL Editor line mode commands are entered in the screen cursor field preceding each ddname of the Editor's RPL list. The valid commands appear at the bottom of each editor screen. The line mode commands that can be placed in front of a ddname entry, are:

- R Repeat this RPL ddname entry.
- I Insert a empty RPL ddname entry after this entry.
- D This command will result in the DDNAME being removed from the RPL list being edited. It will not delete the DDNAME from the CAFC Table file.
- C Copy this RPL ddname entry to the indicated before or after position.
- M Move this RPL ddname entry to the indicated before or after position.



**DFHRPL LIBRARY MANAGEMENT OVERVIEW**

- A     Mark this RPL ddname entry as the position moves are copies will be inserted AFTER.
- B     Mark this RPL ddname entry as the position moves are copies will be inserted BEFORE.

**DFHRPL LIBRARY MANAGEMENT - CONTINUED****RPL EDITOR EXTERNAL COMMANDS**

RPL Editor external commands are always entered on the COMMAND INPUT line at the top of the screen. The following commands are valid in the COMMAND INPUT line: CANCEL, COPY, RESET and SAVE.

**CANCEL COMMAND**

The CANCEL or CAN command will end the current RPL editor session without saving the modified RPL list.

COMMAND	OPERANDS	PURPOSE
Cancel	None	Exit the RPL Editor without saving the modified RPL list

Example: COMMAND INPUT ====> CANCEL

**COPY COMMAND**

The COPY command is used to perform an external copy of other RPL list or the active RPL into the current edit session. The insertion point will be either 1) after the line where the (A)fter command has been issued, 2) (B)efore the line where the before command has been issued or 3) at the top of the current RPL list if neither before or after commands have been issued.

COMMAND	OPERANDS	PURPOSE
COPY	rpl list name	Copy the RPL specified by RPL list name into this RPL edit session
COPY	DFHRPL	Copy the current RPL into this RPL list edit session

Example: COMMAND INPUT ====> COPY RPLA

This command will cause the contents of the RPL list RPLA to be copied into the current RPL edit session.

COMMAND INPUT ====> COPY DFHRPL

The above command will cause the datasets in the current DFHRPL concatenation to be copied into the current RPL edit session. The editor will automatically assign and associate symbolic ddnames to each PDS.

**DFHRPL LIBRARY MANAGEMENT - CONTINUED**

## RESET COMMAND

The RESET or RES command will remove any previous pointers set by the (B)efore, (A)fter, (M)ove, or (C)opy commands.

COMMAND	OPERANDS	PURPOSE
RESET	None	Remove previously set (B)efore, (A)fter, (M)ove, or (C)opy pointers

Example: COMMAND INPUT ====> RESET

## SAVE COMMAND

The SAVE command will cause the currently edited RPL list to be saved to the CAFC control file.

COMMAND	OPERANDS	PURPOSE
SAVE	None	The contents of the current RPL edit session will be saved in the CAFC Table file

Example: COMMAND INPUT ====> SAVE

**DFHRPL LIBRARY MANAGEMENT - CONTINUED****PERFORMING A RECONCATENATION**

To physically concatenate the DFHRPL, enter the 'RPL' request from the ENTRY REQUEST MENU or from the RPL LIST REQUEST MENU. Below is an example of a RPL command targeting a RPL LIST named RPLGOOD. This ENTRY REQUEST LIST below was the result of (1) entering an 'AR' on the PRIMARY REQUEST MENU followed by (2) the ENTER key on the RPL LIST REQUEST MENU without filling in any additional fields.

```

+-----+-----+
| ----- ENTRY REQUEST LIST TYPE = AR ----- | -----CAFC PANEL# 209 |
| COMMAND INPUT ==> | SCROLL ==> CSR |
|
| ----- L A S T   R E Q U E S T ----- |
| REQST TYPE  NAME      REQST  COMPLETE STATUS MESSAGE  DATE    TIME      BY |
| -      AR   RPLA              /    /              : |
| -      AR   RPLB              /    /              : |
| -      AR   RPLC              /    /              : |
| -      AR   RPLX              /    /              : |
| RPL   AR   RPLGOOD          RPL    NO ERRORS          05/01/95 20:23  MASTER |
|
| PF1-HLP  PF2-2ND SES  PF3-END  PF4-RET  PF7-BWD  PF8-FWD  PF9-ALT SES PF12-MSG |
+-----+-----+

```

The second way to perform a RPL concatenation is to use RPL LIST REQUEST Menu directly. Below the user entered the RPL List name, 'RPLGOOD', in the NAME field and 'RPL' in the REQUEST field. The user knew the list name before performing the concatenation. RPLGOOD references a specific RPL List containing the list of symbolic ddnames and their associated load libraries (PDSSs) that will become the new DFHRPL for the region. Of course some number of CEMT NEW COPY commands will likely have to be performed.

```

+-----+-----+
| ----- RPL LIST REQUEST MENU ----- | ----- PANEL# 208 |
| REQUEST ==> RPL |
|
| TABLE TYPE ==> AR (? = SHOW TYPE MENU) |
| NAME ==> RPLX |
|
| S      DISPLAY STATUS |
| BLANK  DISPLAY LIST  |
| RPL    RECONCATENATE DFHRPL |
| ORPL   RE-OPEN DFHRPL  |
+-----+-----+

```

NOTE: CAFC will automatically ensure that the largest block size of all the RPLs is associated with the first RPL in the DFHRPL concatenation.

**DFHRPL LIBRARY MANAGEMENT - CONTINUED****DISPLAYING DATA SETS IN THE CURRENT DFHRPL**

To display the contents of the current CICS DFHRPL concatenation, use the CAFC STATUS function with a TABLE TYPE of 'AR' and a NAME of 'DFHRPL'.

```

+-----+----- RPL APPLICATION REQUEST MENU -----+-----+-----+
| REQUEST ==> S                                           |
|                                                         |
| TABLE TYPE ==> AR (? = SHOW TYPE MENU)               |
| NAME ==> DFHRPL                                         |
|                                                         |
| S      DISPLAY STATUS                                   |
| BLANK  DISPLAY LIST                                     |
| RPL    RECONCATENATE DFHRPL                             |
| ORPL   RE-OPEN DFHRPL                                   |
|                                                         |
+-----+-----+-----+-----+-----+-----+-----+

```

When you use the 'S' request, the CAFC TABLE TYPE and NAME must be 'DFHRPL' as shown above. In this case the parameters do not refer to a CAFC APPLRPL tion List name. They refer to the DFHRPL concatenation in effect at the time of the request.

**WARM STARTING AN DFHRPL CONCATENATION**

CAFC's Early Allocation Program, AFCPSIPY, provides warm start capability for the DFHRPL. That is, AFCPSIP3 can optionally set up a specific concatenation at CICS Start-Up time according to the information last saved in the CAFC Control File. AFCPSIP3 will handle RPL allocation failures at Start-up according to the DFHRPL Customization Options you previously set. See the section entitled CUSTOMIZATION OPTIONS. The failure options include:

- Abandon the re-concatenation request
- Exclude RPLs which fail to allocate
- Abnormally terminate CICS Start-Up

If you use CAFC's Dynamic DFHRPL Library Management support, you must activate one of the CAFC's APF authorization techniques. The techniques are described in the section entitled SECURITY OPTIONS within the CUSTOMIZATION OPTIONS chapter.

NOTE: Previous users of the RPL concatenation function in CAFC Release 3.2.02, must re-enter their RPL lists through the new RPL editor. The enhanced RPL editing function required a major change in the key structure of the RPL list. APPLDDNs are now referred to as APPLRPLs.

**DFHRPL LIBRARY MANAGEMENT - CONTINUED**

**RPL PROBLEMS CREATED BY OTHER PRODUCTS**

If you experience a complete failure message when using a RPL command, the problem may be your CICS dump product. Hit the PF-12 key to retrieve any error messages. If you see a WRPLERR=0420, another CICS program has opened the RPL and left it opened. CAFC cannot close the DFHRPL to begin the recontatenation process. If you want to use CAFC's DFHRPL management, you must determine which product is holding the dcb for DFHRPL and release the hold. Then try the RPL request again. You can use the CAFC transaction AFXX to aid in determining who is holding the DCB for DFHRPL if this occurs.

**FILE LOCKING PROTECTION**

Many batch update procedures use multiple job streams. If a CICS user or operator were to enable a file belonging to a batch update procedure, between job streams, the file could be automatically opened, allocated and prematurely taken away from batch. This could happen if a user entered a CICS transaction with programs that referenced the files.

CAFC's File Locking option places a second level of isolation between the CICS operator and files belonging to batch. If a file is locked, no one can change the status of the file without first issuing an unlock request. Lock status is honored across cold, warm and emergency region restarts.

The requests that support the Locking option include:

- L Lock an item
- U Unlock an item
- CL Close and Lock
- UO Unlock and Open
- DCL Disable, Close and Lock
- UOE Unlock, Open and Enable

The lock status is displayed on the ENTRY REQUEST/EXPANSION LIST just to the right of the TYPE fields. That is, if a file is locked, a '#' will be attached to the TYPE variable.

Note: Lock Status is honored only for CAFC requests or requests from applications that link to CAFC programs. The Lock status is not honored by requests generated from CEMT.

**CAFC INTERFACE TO DBCTL**

CAFC can control databases that are defined to DB control for IMS 5.1 and later under CICS TS1.3 and later. CAFC issues IMS commands through the ICMD interface of the IMS automated operator interface. CAFC does wait for a positive response after the required action has completed. The response is then translated into a step condition code. CAFC supports the OPENing (STARTing), CLOSing (STOPping), DBDUMPing, and DBRECOVERYing of IMS databases.

The CAFC online interface communicates with IMS via CICS's Coordinator Control address space (CCTL) interface. Through this interface, PSB's are scheduled and IMS commands are issued to cause the user's requested actions to be processed. The CAFC B/I interface program communicates with IMS by acting as it's own CCTL address space.

**PREPARING DB CONTROL FOR USE BY CAFC**

The following steps must be completed to ready IMS for use by CAFC. Steps 1 through 4 are necessary for all installations. Steps 5 through 6 are only necessary if the user requires definite response from IMS commands.

Step 1. Define the following PSB to the DB control environment.  
PSBGEN LANG=ASSEMBLER,PSBNAME=AFCP2009,IOASIZE=1000

Step 2. Define the following application to the DB control environment.  
APPLCTN PSB=AFCP2009,PGMTYPE=BATCH,SCHDTYP=PARALLEL

Step 3. Customize CAFC by defining the DFSPZP.. module suffix and the DB control environment name. This is done by specifying the suffix, timeout value and DBCTL name in the CAFC Customization Options. Select Option 5 off the Primary Options Menu to go to the customization options menu. Select Option 15 for EXEC CICS SUPPORT options. Set the DBCTL option to 'Y' to activate DBCTL support. Customize the fields for suffix, timeout value and DBCTL name. Save the options or press PF3 to save and exit. The screen lines appears as follows.

DFSPZP.. SUFFIX	==>	SUFFIX FOR DB CONTROL FOR DBCGL TO CONFIRM REQUEST COMPLETE
DBCTL NAME	==>	DB CONTROL NAME



**CAFC INTERFACE TO DBCTL - CONTINUED**

DBCTL BATCH TIME OUT ==> 01 - 10 MINUTES TO WAIT FOR DBCTL TO  
 CONFIRM REQUEST COMPLETE  
 00 INDICATES DO NOT WAIT FOR COMPLETION

If the DBCTL BATCH TIME OUT value is set to 00, IMS command definite response will be deactivated.

**Step 4. Verify IMS security.**

CAFC is subject to standard IMS security. CAFC issues ICMDs to DB control. The IMS parameter AOIS must not be set to N is CAFC is to be allowed to manipulate DB control databases. This discussion is based on RACF (ISIS=1, AOIS=R) being used to secure the CCTL interface. Other security systems or methods may vary from this discussion.

IMS utilizes two levels of security to protect the use of the CCTL interface. The first level of security is to check the user's ability to connect to the DB control environment. This is controlled through the use of the application group name defined in the DFSPZP.. module and the definition of security with the SMU. An example of the SMU input necessary to define CAFC follows.

```
AGN      CAFCAGN
AGPSB    AFCP2009
```

In this example an application group name of CAFCAGN has been defined and the AFCP2009 PSB is part of this group. The application group name is defined to RACF in the AIMS (default) class and the user permitted to use the AGN as follows.

```
REDEFINE AIMS CAFCAGN UACC(NONE)
PERMIT CAFCAGN CLASS(AIMS) ID(user1) ACCESS(READ)
```

The userid found on the jobcard of the CCTL (either CICS or AFCP2016) is used to determine is the user is authorized to use the application group name (AGN).

**CAFC INTERFACE TO DBCTL - CONTINUED**

The second level of security checking is to check the user's ability to issue commands through ICMD. IMS commands are defined in the RACF class CIMS (default). Users are then permitted the use of the commands through the RACF permit command. The following example secures the START command and allows user1 to issue starts.

```
RDEFINE CIMS STA UACC(NONE)
PERMIT STA CLASS(CIMS) ID(user1) ACCESS(READ)
```

**Step 5. Verify that necessary IMS pre-req maintenance is installed.**

Without this maintenance, CAFC's positive response to IMS commands will not work correctly. If this maintenance is missing, commands that OPEN, CLOSE, DBRECOVERY or DBDUMP a database will only complete after the default wait time has expired.

```
For IMS Version 5.1  PQ16397  UQ19415, UQ19416
For IMS Version 6.1  PQ10615  UQ19419, UQ19420, PQ21229
```

**Step 6. Install the DFSAOE00 IMS Exit and recycle DBCTL.**

If a DFSAOE00 exit already exists, it will be necessary to generate an exit driver so that both CAFC's DFSAOE00 and the previously used DFSAOE00 exits can co-exist. After installing or reinstalling DFSAOE00 you must recycle the DBCTL region to load the new exit.

If the CAFC DFSAOE00 exit is the only DFSAOE00 exit in the DB control environment execute the following procedure then recycle the DBCTL region.

```
//jobcard
//LKED          EXEC    PGM=IEWL,
//              PARM='XREF,LET,LIST,NCAL'
//SYSPRINT      DD      SYSOUT=*
//SYSLMOD       DD      DISP=SHR,DSN=IMS.RESLIB
//NTCLIB        DD      DISP=SHR,DSN=cafc.loadlib
//RESLIB        DD      DISP=SHR,DSN=IMS.RESLIB
//SYSIN         DD      *
MODE           AMODE(31),RMODE(ANY)
INCLUDE NTCLIB(DFSAOENT)
INCLUDE RESLIB(DFSCSI00)
ENTRY          DFSAOE00
NAME           DFSAOE00(R)
/*
```

**CAFC INTERFACE TO DBCTL - CONTINUED**

If the CAFC DFSAOE00 exit is not the only DFSAOE00 exit in the DB control environment, it is necessary to generate the DFSAOE00 driver. This is done by coding and assembling a small table that defines the DFSAOE00 exits that will be called, the order they are called in and which exits return codes should be passed back to IMS. The name of the table to be coded is AOEEXTNM.

The following describe the macros that can be coded to create this table.

```

                                IGNORE
$AOEEXIT  TYPE=INITIAL  ,AOEORPLY=
                                SEND
                                IGNORE
$AOEEXIT  TYPE=ENTRY,MODULE=xxxxxxx  ,RETCODE=
                                USE
$AOEEXIT  TYPE=FINAL

```

## MACRO PARAMETER DESCRIPTIONS

AOEORPLY=IGNORE	This indicates that the DFSAOE00 driver is to always return the AOE0IGNR return code to IMS. When AOEORPLY= IGNORE is specified, IMS will process the message as if the DFSAOE00 exit was not present.
AOEORPLY=SEND	This indicates that the DFSAOE00 driver is to always return the AOE0SEND return code to IMS. If AOEORPLY=SEND is specified, IMS will always pass the message segment to the DFSAOUE0 exit.
TYPE=INITIAL	Indicates this is the first invocation of the macro. A TYPE=ENTRY must be coded on the first macro in the AOEEXTNM table.
TYPE=ENTRY	Indicates this \$AOEEXIT macro is defining a DFSAOE00 module to be called from the DFSAOE00 driver. The first TYPE=ENTRY coded in the AOEEXTNM table must specify the NETEC DFSAOE00 exit name DFSAOENT. Subsequent TYPE=ENTRY macros can be coded specifying additional DFSAOE00 exits to be called. The exits will be called in the order they are found in the AOEEXTNM table.

## CAFC FEATURES AND CONSIDERATIONS

TYPE=FINAL	Indicates this is the last \$AOEEXIT macro in the AOEEXTNM table
RETCODE=IGNORE	This indicates that the return code from the DFSAOE00 exit should not be passed back to IMS.
RETCODE=SEND	This indicates that the return code from this DFSAOE00 exit should be passed back to IMS. Only one RETCODE=SEND can be coded in an AOEEXTNM table.

The following JCL can be used to create the DFSAOE00 driver module. See install library member DFSAOEDR for sample jcl. Remember to recycle the DBCTL region once you have relinked the exit.

```
//jobcard
//ASM          EXEC   PGM=ASMA90,
//SYSPRINT     DD     SYSOUT=*
//SYSLIB       DD     DISP=SHR,DSN=cafc.maclib
//SYSLIN       DD     DSN=&&OBJ,DISP=(,PASS),UNIT=SYSDA,
//              SPACE=(TRK,(10,1)),
//              DCB=(RECFM=FB,LRECL=80,BLKSIZE=3040)
//SYSUT1       DD     SPACE=(4096,(120,120)),UNIT=SYSDA
//SYSIN        DD     *
//              ..
//              $AOEEXIT macros go here
//              ..
//LKED         EXEC   PGM=HEWL,PARM='XREF,LET,LIST,NCAL'
//SYSPRINT     DD     SYSOUT=*
//SYSUT1       DD     DISP=(,DELETE),SPACE=(1024,(120,120)),
//              UNIT=SYSDA
//SYSLMOD      DD     DISP=SHR,DSN=IMS.RESLIB
//NTCLIB       DD     DISP=SHR,DSN=cafc.loadlib
//RESLIB       DD     DISP=SHR,DSN=IMS.RESLIB
//SYSLIN       DD     DISP=(OLD,DELETE),DSN=&&OBJ
//              DD     *
//              MODE   AMODE(31),RMODE(ANY)
//              INCLUDE NTCLIB(DFSAOEDR)
//              INCLUDE RESLIB(DFSCSI00)
//              ENTRY   DFSAOE00
//              NAME     DFSAOE00(R)
/*
```

### **CAFC INTERFACE TO DBCTL - CONTINUED**

SAMPLE AOEEXTNM TABLE

## CAFC FEATURES AND CONSIDERATIONS

In the following example the DFSAOE00 driver will first call the NETEC supplied DFSAOE00 exit. When this exit returns it's return codes will be ignored.

The DFSAOE00 driver will next call the "userexit" program. The return codes from the DFSAOE00 exit will be passed on to IMS.

```
$AOEEXIT TYPE=INITIAL
$AOEEXIT TYPE=ENTRY,MODULE=DFSAOENT,RETCODE=IGNORE
$AOEEXIT TYPE=ENTRY,MODULE=userexit,RETCODE=USE
AOEEXIT TYPE=FINAL
END
```

**VSAM RLS SUPPORT**

If RECORD LEVEL SHARING is set to Yes in the ddname record, then the CAFC can send QUIESCE(Q) and UNQUIESCE(N) requests directly to the VSAM control region whether CICS is up or down using an online or batch request. The VSAM control region will automatically generate and route the required CLOSE or OPEN requests for every region that supports the target file.

CAFC Customization Option parameters, found on the VSAM RLS SUPPORT menu, will optionally translate OPEN and CLOSE requests to UNQUIESCEs and QUIESCEs respectively. These parameters eliminate the need to change existing B/I request jobstreams that were setup for non RLS access. CAFC verifies that each file is indeed a RLS file before making the request translation. Four other customization option parameters found on this menu can optionally propagate an enable, open, disable or free associated with RLS datasets to the other regions where the dataset is installed. In order for Propagation to work you must set the Record Level Sharing option to 'Y' on the EXEC CICS SUPPORT Options menu.

CAFC's Warmstart will warm start the OPEN/CLOSED status of the RLS file by the mechanism does not warm start the QUIESCE/UNQUIESCE status. Warmstart, however, does have the ability to set the dsname into the FCT. This action insures the dsname will be available for any subsequent PLTPI processing against the RLS files. This feature is controlled by the SET RLS DSNAME option on the VSAM RLS SUPPORT options menu. This feature is totally independent from the FCT WARM START option setting. The option for SET RLS DSNAME is maintained in the CAFC tablefile at the region level. It can be overridden by specifying the 'SETRLSDSN=' parm in the CAFCPARMS dataset. Specify either 'SETRLSDSN=Y' or 'SETRLSDSN=N'.

The status field in the CAFC request list now carries two additional bytes of information. For RLS VSAM files, Byte 1 will show 'A' if AVAILABLE or 'X' if NOT AVAILABLE. Byte 2 will show 'Q' if QUIESCED, '>' if QUIESCING, and 'N' if UNQUIESCED. These two bytes are blank for non-RLS VSAM files.

**VSAM RLS SUPPORT - CONTINUED**

A new file maintenance command available within the Extended CAFC record maintenance facility, SYNCHRONIZE\_RLSFLAG scans scans and edits the CAFC DDN records. It sets the RLS flag (CDTRLIS) according to the value of the RLS ACCESS field in the region's FCT. This function should be run once for each region that has VSAM RLS support activate.

Below are the RLS requests supported by CAFC.

N	UNQUIESCE DATASETS
V	SET DATASETS AVAILABLE
VN	SET DATASETS AVAILABLE & UNQUIESCED
NO	UNQUIESCE & OPEN DATASETS
VO	SET DATASETS AVAILABLE & OPEN
VNO	SET DATASETS AVAILABLE UNQUIESCED & OPEN
UO	UNLOCK & OPEN DATASET; OPEN TDQUEUES
UNO	UNLOCK, UNQUIESCE & OPEN DATASETS
VUO	SET DATASETS AVAILABLE UNLOCKED & OPEN
VUNO	SET DATASETS AVAILABLE UNLOCKED UNQUIESCED & OPEN
Q	QUIESCE DATASETS
X	SET DATASETS UNAVAILABLE
QX	SET DATASETS QUIESCED & UNAVAILABLE
CL	CLOSE & LOCK DATASET; CLOSE TDQUEUE
CQ	CLOSE & QUIESCE DATASETS
CX	SET DATASETS CLOSED & UNAVAILABLE
CQX	SET DATASETS CLOSED QUIESCED & UNAVAILABLE
CQL	CLOSE, QUIESCE & LOCK DATASETS
CLX	SET DATASETS CLOSED LOCKED & UNAVAILABLE
CQLX	SET DATASETS CLOSED QUIESCED LOCKED & UNAVAILABLE

**ALTERNATE DSNAME FACILITY**

Allocation requests may apply to one of two dsnames, either the Primary or Secondary dsname. This optional facility is active only if the Alternate Dsname Facility is activated through the CUSTOMIZATION OPTIONS for EDIT REQUESTS.

Alternate Dsname requests may target a Group name, an Application name or an individual ddname. The requests (on-line and B/I) include: set primary, set secondary, exchange, inquire and the combination of close/free/exchange/ reopen. The pri/sec settings can be overridden through parameters in the CAFCOVER input parm list that is processed by CAFC during region initialization. Maintenance to the dsname fields settings is performed through (1) normal on-line edits, (2) the B/I or (3) through a user written program. The dsnames and the current pri/sec setting are displayed on the status screens. Free requests will always deallocate the dsname used by the previous allocation request. The primary/secondary flag is maintained at the ddname record level.

The requests that support the Alternate Dsname option include:

```
NOA  Set no alternative dsname
PRI  Set primary dsname
SEC  Set secondary dsname
INQ  Inquire about dsname status
EXC  Exchange dsnames
CXO  Close, exchange dsnames, open
```

When the INQ request is issued from the B/I, the AF7RCODEs that CAFC returns are:

```
AF7NOA=120      ddname set to no alternate dsname.
```

```
A '120' would be returned only if all of the component ddname
records (e.g. a Group/Application/individual) had their CDTDSNF
flags set to 'N'.
```

```
AF7PRI=124 - ddname set to primary dsname.
```

```
A '124' would be returned if (1) all of the component ddname
records (e.g. a Group/Application/individual) had their CDTDSNF
flags set to 'P', or (2) some component ddname records had their
CDTDSNF flags set to 'P' while others had their flags set to
'N'.
```

```
AF7SEC=128 - ddname set to secondary dsname.
```



**ALTERNATE DSNAMES FACILITY-CONTINUED**

A '124' would be returned if (1) all of the component ddname records (e.g. a Group/Application/individual) had their CDTDSNF flags set to 'S', or (2) some component ddname records had their CDTDSNF flags set to 'S' while others had their flags set to 'N'.

AF7MXT=132 - ddname set to mixed dsnames.

A '132' would be returned if (1) some of the component ddname records (e.g. a Group/Application/individual) had their CDTDSNF flags set to 'P', and other component ddname records had their CDTDSNF flags set to 'S'.

**MRO REGION SELECTION SCREEN**

If you have a MRO environment, you can activate CAFC's user friendly, MRO interface. The main component of this option is the MRO Selection Screen. Your users can select the CICS region on which they wish to run the CAFC facility. The first screen of this option displays: (1) the file owning region (DOR), (2) the list of application owning regions (AORs), and (3) the terminal owning region (TOR). The screen contains a brief explanation about each region. When a user requests a transfer to a region, the request is scrutinized by your normal security facilities.

Below is a sample Region Selection Screen.

```

+-----CAFC REGION SELECTION-----CAFC PANEL# 200+
|
|          CICS APPLICATION FILE CONTROL
|          NETEC INTERNATIONAL INC.
|
|          MARKETING ASSISTANCE - (214) 343-9744
|
|          TECHNICAL ASSISTANCE - (214) 343-9744
|
| ENTER CICS APPLID ===>
|
|  CICS99A - CICS 4.1.1 SYSTEM A
|  CICS99B - CICS 4.1.1 SYSTEM B
|  CICS99C - CICS 3.2.1 SYSTEM C - Test
|  CICS99D - CICS 3.2.1 SYSTEM D - Teller Terminals
|  CICS99E - CICS 3.3.0 SYSTEM E
|  CICS99F - CICS 3.3.0 SYSTEM F
|  CICS99G - CICS 3.3.1 SYSTEM G - DB2 Test
|  CICS99H - CICS 2.1.1 SYSTEM H - IMS 2.2
|  DUMMYA - DUMMY SYSTEM A
|  DUMMYB - DUMMY SYSTEM B
|  DUMMYC - DUMMY SYSTEM C
|  DUMMYD - DUMMY SYSTEM D
|
|          PF3-END    PF7-BCK    PF8-FOR    CLEAR-TERMINATE
+-----+

```

**MRO REGION SELECTION SCREEN - CONTINUED**

The AFCA transaction drives the screen. The screen information is maintained in the optional CAFC table, AFCT1000. AFCT1000 associates the CICS applid of each AOR and FOR region to the appropriate remote TRANSID. AFCT1000 also includes a brief description of each region. Below are some sample entries for an AFCT1000 table.

AFCMRO	TYPE=ENTRY,APPLID=xxxxxxC,TRANSID=xxCS, DESC='CICS 1.7.1 SYSTEM C - TEST'	X
AFCMRO	TYPE=ENTRY,APPLID=xxxxxxD,TRANSID=xxDS, DESC='CICS 1.7.1 SYSTEM D - TELLER TERMINALS'	X
AFCMRO	TYPE=ENTRY,APPLID=xxxxxxG,TRANSID=xxGS, DESC='CICS 1.7.1 SYSTEM G - DB2 TEST'	X
AFCMRO	TYPE=ENTRY,APPLID=xxxxxxH,TRANSID=xxHS, DESC='CICS 2.1.1 SYSTEM H - IMS 2.2'	X

When the user selects a CICS region from the selection screen, CAFC will start the appropriate remote transaction per the TRANSID in the AFCT1000 table. If the user selects the current CICS region, (ie. the "TOR" itself) then CAFC will start the local transaction per the TRANSID in the AFCT1000 table. If the selected CICS region has not been defined to AFCT1000, CICS's MRO facility will NOT be able to start either the local or the remote transaction.

When a user terminates a non-MRO CAFC session with a clear key or PF3 key, the message, AFCS SESSION TERMINATED, is displayed. In a MRO environment, the user will not receive this message because control is first passed to the TOR region. That is, standard termination returns the user to the Region Selection Screen in the TOR. Then, when the user terminates the TOR CAFC session, the user will receive the message, AFCS MRO SESSION TERMINATED.

If your external security package controls all of the AOR and the DOR regions, you should adjust the TCT entries so that CESN/CSSN signon will be issued whenever the remote transaction is started. CAFC's external security package interface forces the MRO screen to execute an EXEC CICS ASSIGN USERID(). This provides access to the associated TSO userid so that your external security system can control the user's authorization to CAFC functions in the selected region. Once the user is transferred to the requested region, the user must enter the userid and password for that region's signon procedure.

All of the CICS table entries to install the MRO Selection Screen facility are provided on the CAFC Installation Tape in file CAFC.R4500.CSDLOAD in members CAFCMRO, CAFCTOR and CAFCAOR.

**MRO REGION SELECTION SCREEN - CONTINUED****TRANSIDS**

The TRANSID is the link between your terminal owning region and the other regions. In the TOR, the TRANSID must be defined with a REMOTESYSTEM, REMOTENAME, and a TRPROF using RDO. In the AORs and in the DOR, the TRANSID should be defined normally (without the above specifications).

**GOOD MORNING MESSAGES, GMSG**

The TCT entry for your AORs and the DOR must include GMSG=NO.

**CSD GROUP, CAFCMRO**

The following mapset, programs, and transaction activate CAFC's MRO facility. These resources must be available to the TOR.

```
MAPSET:  AFCEM200  RSL(PUBLIC) STATUS(ENABLED)
PROGRAM: AFCEP2050  RSL(PUBLIC) STATUS(ENABLES) LANGUAGE(ASSEMBLER)
PROGRAM: AFCT1000  RSL(PUBLIC) STATUS(ENABLED) LANGUAGE(ASSEMBLER)
TRANSACTION: AFCA  PROGRAM(AFCEP2050)
```

**CSD GROUP ("TOR" Example)**

These PCT Table entries define the connections between the TOR and each accessible AOR/DOR. A normal CICS region has the two CAFC transids, AFCS, CAFC signon, and AFC2, the main supervisor program. The example below uses the third character of the transid as the system identifier and the fourth character as the unique transaction identifier. The transid for the main supervisor program must end in a '2'. Of course you can select your own naming conventions.

```
TRANSACTION(AFCA) PROGRAM(AFCEP2050) PROFILE(DFHICIST)
TRANSACTION(AOCS) REMOTESYSTEM(AORC) REMOTENAME(AOCS) TRPROF(DFHICISS)
TRANSACTION(AOC2) REMOTESYSTEM(AORC) REMOTENAME(AOC2) TRPROF(DFHICISS)
TRANSACTION(AODS) REMOTESYSTEM(AORD) REMOTENAME(AODS) TRPROF(DFHICISS)
TRANSACTION(AOD2) REMOTESYSTEM(AORD) REMOTENAME(AOD2) TRPROF(DFHICISS)
TRANSACTION(AOGS) REMOTESYSTEM(AORG) REMOTENAME(AOGS) TRPROF(DFHICISS)
TRANSACTION(AOG2) REMOTESYSTEM(AORG) REMOTENAME(AOG2) TRPROF(DFHICISS)
TRANSACTION(AOHS) REMOTESYSTEM(AORH) REMOTENAME(AOHS) TRPROF(DFHICISS)
TRANSACTION(AOH2) REMOTESYSTEM(AORH) REMOTENAME(AOH2) TRPROF(DFHICISS)
```

The CSD group, CAFCTOR, on the installation tape's CSD file is provided as an example only for your terminal owning region. The CSD group, CAFCMRO, should be added to the terminal owning region. This group contains the mapset, program, and initial AFCT1000 table. Modify the transid names as necessary.

**MRO REGION SELECTION SCREEN - CONTINUED****CSD GROUP ("AOR"/"DOR" Example)**

These PCT Table entries define the connections between each AOR and its corresponding TOR. A normal CICS region has the two transids that are AFCS and AFC2; this example uses the third character of the transid to be the system identifier and the fourth character to be the unique transaction identifier; NOTE THAT YOU CAN CHOOSE YOUR OWN NAMING STANDARDS FOR ALL OF THESE TRANSIDS.

```
TRANSACTION(AOCS) PROGRAM(AFCP2010) PROFILE(DFHICST)
TRANSACTION(AOC2) PROGRAM(AFCP2001) PROFILE(DFHICST)
TRANSACTION(AFCA) REMOTESYSTEM(TORA) REMOTENAME(AFCA) TRPROF(DFHICSS)
```

The CSD group, CAFCAOR, on the installation tape's CSD file is provided as an example only for your application owning region ("AOR")/ data owning region ("DOR"). This group contains the two local transactions and the one remote transaction for each AOR. NOTE THAT THE TRANSID NAMES ARE CHANGEABLE.

Activate the termid error exit, DFHXTENF, for exit points XICTENF and XALTENF in the AOR/DOR regions. This can be accomplished by using transaction CECI to issue the following two commands:

```
CECI EXEC CICS ENABLE PROGRAM(DFHXTENF) EXIT(XICTENF) GALENGTH(100)
```

Execute this command then issue:

```
CECI EXEC CICS ENABLE PROGRAM(DFHXTENF) EXIT(XALTENF) START
```

Execute this command. Following the execution of both commands the exit will be enabled.

**ERROR MESSAGES**

The following messages may occur if your MRO sessions and connections are not set up properly or the CAFC MRO definitions are in error.

```
ERROR TRYING TO SEND MAP - CALL CICS SYSTEMS PROGRAMMING
ERROR TRYING TO RECV MAP - CALL CICS SYSTEMS PROGRAMMING
ERROR TRYING TO LOAD PGM - CALL CICS SYSTEMS PROGRAMMING
ERROR TRYING TO START TRANSID (.....) - CALL CICS SYSTEMS PROGRAMMING
      INVREQ      Invalid request
      IOERR       I/O error
      ISCINVREQ   ISC invalid request
      NOTAUTH     Not authorized
      SYSIDERR    SYSIDNT in error
      TERMIDERR   Termid in error
      TRANSIDERR  Transid in error
```

If the user enters an applid that is not in the CAFC MRO table, the following message will be displayed on the screen:

```
CICS ID NOT IN MRO TABLE - RE-ENTER A VALID CICS ID
```

### **ENHANCED RESOURCE MANAGEMENT**

The following automatic facilities are controlled by CAFC Customization Options and CAFC table entry fields controlled by the EDIT panels. Remember, these automatic facilities are in effect whenever a CAFC or non-CAFC command changes the status of a resource or a first access read or write targets a FCT resource. For example, if you were to open a file with CEMT, CAFC would automatically set the file status conditions to those you previously specified in the CAFC control panels. Review and select the automatic facilities that meet your site's operational requirements.

- Automatic allocation when a data set is opened
- Automatic allocation when a vsam data set is first accessed
- Automatic free when a data set is closed
- Automatic enable when a data set is opened or allocated
- Automatic disable when a data set is closed or freed

### **AUTOMATIC ALLOCATION OF VSAM FILES**

VSAM files may be automatically allocated in support of an OPEN request from CAFC, CEMT, EXEC CICS calls or any other means that uses DFHFCS. The following procedural checks determine whether allocation is performed:

1. File must not be already allocated.
2. VSAM ALLOCATION OPTION on CAFC Request Options panel #401 must be 'Y'. Symbol '12' of the Customization Options Menu.
3. AUTOMATIC ALLOCATION on CAFC Edit panel # 400 under the section for 'AUTOMATIC SERVICES' must be 'Y' or 'R'.
4. If a pre-allocation User Exit is taken, it must allow the allocation to proceed.

**ENHANCED RESOURCE MANAGEMENT - CONTINUED****AUTOMATIC ALLOCATION OF NON-VSAM FILES (DCT or non-CICS files)**

Non-VSAM files may be automatically allocated/freed in support of an OPEN /CLOSE request from CAFC, CEMT, an EXEC CICS call. The following procedural checks determine whether allocation is performed:

1. File must not be already allocated.
2. AUTOMATIC ALLOCATION on CAFC Edit panel # 400 under the section for 'AUTOMATIC SERVICES' must be 'Y' or 'R'.
3. If a pre-allocation User Exit is taken, it must allow the allocation to proceed.

**AUTOMATIC FREES ON A CLOSE REQUEST**

FCT and DCT files may be automatically freed in support of a CLOSE request from CAFC, CEMT or any other programs that make request of CICS. The following procedural checks determine whether deallocation is performed:

1. File must not be already deallocated.
2. FREE AT CLOSE TIME on CAFC Edit panel # 400 under section for 'AUTOMATIC SERVICES' must be 'Y' prior to allocation.
3. If pre-free User Exit is taken, it must allow the deallocation to proceed.

**AUTOMATIC ENABLE/DISABLE OF FCTS/DCTS**

CICS FCT or DCT table entries may be automatically Enabled or Disabled in support of certain requests from CAFC. The following checks determine whether an action is performed:

If the CAFC request is OPEN, then the associated CICS table (FCT or DCT) will be enabled if:

1. ENABLE WITH OPEN on CAFC Customization Request Options panel # 401 is 'Y', and
2. AUTOMATIC ENABLE/DISABLE on CAFC Edit panel # 400 under the section for 'AUTOMATIC SERVICES' is set to 'Yes'.

If the CAFC request is ALLOCATE, then the associated CICS table (FCT or DCT) will be enabled if:

1. ENABLE WITH ALLOCATE on CAFC Customization Request Options panel # 401 is 'Y', and
2. AUTOMATIC ENABLE/DISABLE on CAFC Edit panel # 400 under the section for 'AUTOMATIC SERVICES' is set to 'Yes'.

**ENHANCED RESOURCE MANAGEMENT - CONTINUED**

If the CAFC request is CLOSE, then the associated CICS table (FCT or DCT) will be disabled if:

1. EXEC CICS SET FILE support must be set to 'Y'. See 'Support Options' after selecting item '15' from the Customization Options Menu, and
2. DISABLE WITH CLOSE on CAFC Customization Request Options panel # 401 is 'Y', and
3. AUTOMATIC ENABLE/DISABLE on CAFC Edit panel # 400 under the section for 'AUTOMATIC SERVICES' is set to 'Yes'.

If the CAFC request is FREE, then the associated CICS table (FCT or DCT) will be disabled if:

4. DISABLE WITH FREE on CAFC Customization Request Options panel # 401 is 'Y', and
5. AUTOMATIC ENABLE/DISABLE on CAFC Edit panel # 400 under the section for 'AUTOMATIC SERVICES' is set to 'Yes'.



### **AUTOMATIC STATUS MESSAGE MANAGEMENT**

Status messages for end users may be sent to selected CICS and TSO terminals. These messages present the status of a CAFC event, eg the OPENing or CLOSEing of an application, ddname or both along with user defined text. The message triggering events may be any one of those allowed within the CAFC system. The messages and control parameters are defined within the customization process of CAFC. The messages are associated with (1) the request that will trigger the event, (2) the return code to which that message applies and (3) the intensity of the message when it is displayed on a CICS terminal - normal or bright. The CAFC message system also contains a facility for users who are currently signed on to CAFC and wish to immediately send messages to other CICS or TSO terminals.

The CAFC automatic message facility and user message facility are both activated if:

1. ENABLE ALL MESSAGES on CAFC Global customization panel # 21M is set to 'Y', and
2. ENABLE FUNCTION MESSAGES on CAFC Global customization panel # 21M is set to 'Y'.

The automatic message facility for a unique application is activated if:

1. ENABLE FUNCTION MESSAGES on CAFC Application customization panel # 21N for the desired application is set to 'Y'.

The CAFC user message facility only is activated if:

1. ENABLE ALL MESSAGES on CAFC Global customization panel # 21M is set to 'Y', and
2. ENABLE FUNCTION MESSAGES on CAFC Global customization panel # 21M is set to 'N'.

**AFDB Transaction**

The AFDB transaction provides users the ability to start or stop the DB Control / CICS interface with a single command versus the multiple transaction interaction that is necessary with the CICS supplied CDBC transaction. The AFDB transaction utilizes the 3270 bridge transaction capability that was introduced in CICS Transaction Server Version 1.3 to execute the CDBC transaction and eliminate the need for multiple user actions that the CDBC transaction normally requires. The format of the AFDB transaction follows.

```

AFDB CONnect    SUFfix(xx) DBCtlid(iiii) WAItttime(tt)
AFDB DISconnect    WAItttime(tt)
AFDB DISconnect    IMMediate WAItttime(tt)

```

CONnect	The CONnect key word request the AFDB transaction connect CICS to DB Control. Either the CONnect or DISconnect keyword is required on the AFDB transaction.
DISconnect	The DISconnect key word request that the AFDB transaction disconnect from the current DB Control connection in an orderly fashion. Either the CONnect or DISconnect keyword is required on the AFDB transaction.
IMMediate	The IMMEDIATE keyword is optional and species that this disconnect request is to be immediate.
SUFfix	The SUFfix keyword species the suffix for the DFSPZP module that is to used when starting this CICS / DB Control connection. This parameter is optional and if omitted defaults to 00 or the last suffix that was specified when the CICS / DB Control connection was last activated.
DBCtlid	The DBCtlid keyword specifies the DB Control id that you wish CICS to connect with. This parameter is optional. If omitted the DB Control ID that is specified in the DFSPZP table will be used to make the connection.
WAItttime	This parameter species the amount of time, in seconds, the AFDB transaction is to wait for the request DB Control system to either connection or disconnect. If this time expires the current connect or disconnect request is canceled and the AFDB transaction

**AFDB TRANSACTION-CONTINUED**

terminates with a message to the user. Wait time can be specified from 10 to 999 seconds.

xx The suffix name for the DFSPZP that is to be used to start this DB Control / CICS Connection.

iiii The DB Control ID that this CICS is to connect to.

tt The maximum amount of time, in seconds, that the AFDB transaction is to wait for this DB Control / CICS interface connection or disconnection to complete. This parameter is optional. If omitted the default wait time is 30 seconds.

The keywords on the AFDB transaction may be abbreviated to the following format.

CONNECT	-	CON
DBCTLID	-	DBC
DISCONNECT	-	DIS
IMMEDIATE	-	IMM
SUFFIX	-	SUF
WAITTIME	-	WAI

**AFDB TRANSACTION-CONTINUED****Transaction Definition**

The AFDB transaction consists of one transaction and two programs that should be defined as follows.

**AFDB Transaction Definition**

OBJECT CHARACTERISTICS CICS RELEASE = 0530

CEDA View TRANSACTION( AFDB )

TRANSACTION	:	AFDB	
Group	:	CAFCGRP	
DEscription	:	TRANSACTION TO START THE BRIDGE EXIT FOR CDBC	
PROGram	:	AFCPCDBC	
TWAsize	:	00000	0-32767
PROFile	:	DFHCICST	
PARTitionset	:		
STatus	:	Enabled	Enabled   Disabled
PRIMedsize	:	00000	0-65520
TASKDATAloc	:	Below	Below   Any
TASKDATAKey	:	Cics	User   Cics
STOrageclear	:	No	No   Yes
RUNaway	:	System	System   0   500-2700000
SHutdown	:	Disabled	Disabled   Enabled
ISolate	:	No	Yes   No
Brexit	:		
REMOTE ATTRIBUTES			
DYnamic	:	No	No   Yes
ROUTable	:	No	No   Yes
REMOTESystem	:		
REMOTEName	:		
TRProf	:		
Localq	:		No   Yes
SCHEDULING			
PRIOrity	:	255	0-255
TClass	:	No	No   1-10
TRANClass	:	DFHTCL00	
ALIASES			
ALias	:		
TASKReq	:		
XTRanid	:		
TPName	:		
XTPname	:		
RECOVERY			
DTImout	:	No	No   1-6800
REStart	:	No	No   Yes
SPurge	:	Yes	No   Yes
TPUrge	:	Yes	No   Yes
DUmp	:	Yes	Yes   No
TRACe	:	Yes	Yes   No
COnfdata	:	No	No   Yes
INDOUBT ATTRIBUTES			
ACTion	:	Backout	Backout   Commit
WAIT	:	Yes	Yes   No
WAITTime	:	00 , 00 , 00	0-99 (Days,Hours,Mins)
INDoubt	:	Backout	Backout   Commit   Wait
SECURITY			
RESec	:	No	No   Yes
CMdsec	:	No	No   Yes
Extsec	:	No	No   Yes
TRANSec	:	01	1-64
RS1	:	00	0-24   Public

**AFDB TRANSACTION-CONTINUED****AFPCDBC Program Definition**

OBJECT CHARACTERISTICS CICS RELEASE = 0530

CEDA View PROGRAM( AFPCDBC )

PROGRAM	:	AFPCDBC	
Group	:	CAFCGRP	
Description	:	START TRANSACTION TO ISSUE START BRIDGE FRO CDBC	
Language	:	Assembler	CObol   Assembler   Le370   C   Pli
RELoad	:	No	No   Yes
RESident	:	No	No   Yes
USAge	:	Normal	Normal   Transient
USElpacopy	:	No	No   Yes
Status	:	Enabled	Enabled   Disabled
RS1	:	00	0-24   Public
CEDf	:	Yes	Yes   No
DAtalocation	:	Below	Below   Any
EXECKey	:	Cics	User   Cics
COncurrency	:	Quasirent	Quasirent   Threadsafe

REMOTE ATTRIBUTES

DYnamic	:	No	No   Yes
REMOTESystem	:		

CEDA View PROGRAM( AFPCDBC )

REMOTENAME	:		
Transid	:		
EXECUTIONset	:	Fullapi	Fullapi   Dplsubset

JVM ATTRIBUTES

JVM	:	No	No   Yes   Debug
JVMClass	:		

**AFCPBREX Program Definition**

OBJECT CHARACTERISTICS CICS RELEASE = 0530

CEDA View PROGRAM( AFCPBREX )

PROGRAM	:	AFCPBREX	
Group	:	CAFCGRP	
Description	:	BRIDGE EXIT PROGRAM FOR AFPCDBC	
Language	:	Assembler	CObol   Assembler   Le370   C   Pli
RELoad	:	No	No   Yes
RESident	:	No	No   Yes
USAge	:	Normal	Normal   Transient
USElpacopy	:	No	No   Yes
Status	:	Enabled	Enabled   Disabled
RS1	:	00	0-24   Public
CEDf	:	Yes	Yes   No
DAtalocation	:	Below	Below   Any
EXECKey	:	Cics	User   Cics
COncurrency	:	Quasirent	Quasirent   Threadsafe

REMOTE ATTRIBUTES

DYnamic	:	No	No   Yes
REMOTESystem	:		
REMOTENAME	:		
Transid	:		
EXECUTIONset	:	Fullapi	Fullapi   Dplsubset

JVM ATTRIBUTES

JVM	:	No	No   Yes   Debug
JVMClass	:		

**USING CAFC'S UTILITY SERVICES MENU**

The CAFC Utility Services Menu is an on-line interface to a collection of programs and transactions that provide CAFC Table File maintenance facilities, conversion aids and miscellaneous operational controls functions. Before you begin your installation review the chapter entitled, CAFC UTILITIES, the specific section, 'Utility Services Menu.'

```
+-----+
|          UTILITY SERVICES MENU          ---CAFC PANEL# 226 MAP P
| SELECT OPTION ==>
|
|   _ 1 ACTIVATE/DEACTIVATE TRACE FUNCTIONS
|   _ 2 CAFC STARTUP AND RELATED FUNCTIONS
|   _ 3 CAFC SHUTDOWN AND RELATED FUNCTIONS
|   _ 4 PERFORM A CAFC WARM START
|   _ 5 DFHRPL MODULE LOCATE REQUESTS
|   _ 6 DDNAME ENTRY MAINTENANCE FACILITY
|   _ 7 EXTENDED CAFC RECORD MAINTENANCE FACILITY
|
|
| TO SELECT, ENTER OPTION NUMBER OR TAB TO SERVICE AND ENTER "S"
| PRESS CLEAR KEY TO TERMINATE CAFC
| PFKS: 3=EN
+-----+
```

**ON-LINE USER EXIT POINTS****ALLOCATE/OPEN/CLOSE/FREE GLOBAL EXIT**

Most installations will have no need for a user written ALLOCATE, OPEN, CLOSE, or FREE exit program. However, if your installation has a requirement for the special processing of one or more for any data sets during ALLOCATE/OPEN/CLOSE/FREE processing, CAFC provides the following User Exit points:

<u>Pre-request exits</u>	<u>Post-request exits</u>
Pre-Allocate	Post-Allocate
Pre-Open	Post-Open
Pre-Close	Post-Close
Pre-Free	Post-Free

Request completion exits

Single Item Completion  
 Single Application Completion  
 Application within a Group Completion  
 Group Completion

The CAFC Customization Options section shows how to specify the User Exit Program Name, and how to enable the Request Completion Exits. If a User Exit Program Name is specified, that program name is used for all the above user exit calls (including type 'U' User ddname records). If no User Exit Program Name is specified, then the above exit points are driven for type 'U' records using the default program name of AFCP2UEX. A sample program, AFCP2UEX, is provided in INSTLIB. AFCP2UEX can be modified to update the 64-byte user field that is automatically displayed on the Ddname status screen.

Type U records do not require activation of the Global user exit program. The exits are only driven when a request is processed against one of them. These records can be used to trigger non-CAFC actions when a CAFC resource is processed. For instance, a dummy type 'U' record may be placed in an Application Table. When the table is processed, a user modified version of AFCP2UEX program will be driven. The program could submit a job, start a CICS program or send a scheduling request to CA-7 through a properly formatted internal reader statement.

**ON-LINE USER EXITS POINTS - CONTINUED**

NOTE: Use of these global exit points can affect CICS performance. The exit is driven for each ALLOCATE, OPEN, CLOSE, or FREE that is issued against ddname entries registered to CICS.

NOTE: CEMT Set commands issued from user programs running during PLTPI processing will not have any user exit processing.

NOTE: Each CAFC record is obtained with GET for UPDATE. Be sure you are working with the proper record format. This exit allows you to alter any CAFC Table File record. If you inadvertently damage the record key or data critical to CAFC's operation, CAFC may cease to function or cause other unpredictable results.

NOTE: The 'Pre-Free' exit point will only be driven for explicit FREE requests.

The following rules apply to the coding of programs that use these exits:

1. The exit program must be a CICS COMMAND level program.
2. The exit may use any valid program name. To avoid confusion, we recommend that you use the name AFCP2UEX.
3. The exit program name must be specified in the CAFC EXIT OPTIONS PANEL.
4. The exit program must be specified in the CICS PPT.
5. Upon entry to the exit, Register 1 will be pointing at a parameter list. This parameter list contains only one entry, which is the address of parameters defined by member AFCD2017 in the "MACLIB". The fields contained in the parameter list are described below:

THE CAFC TABLE FILE RECORD IS UPDATABLE FROM THESE EXIT POINTS			
AFXEXITP	DS	CL1	EXIT POINT TYPE
AFXPRALO	EQU	1	PRE-ALLOCATION EXIT
AFXPSTAL	EQU	2	POST-ALLOCATION EXIT
AFXPRFRE	EQU	3	PRE-FREE EXIT
AFXPSTFR	EQU	4	POST-FREE EXIT
AFXPROP	EQU	5	PRE-OPEN EXIT
AFXPSTOP	EQU	6	POST-OPEN EXIT
AFXPRCLS	EQU	7	PRE-CLOSE EXIT
AFXPSTCL	EQU	8	POST-CLOSE EXIT



ON-LINE USER EXIT POINTS - CONTINUED

THE CAFC TABLE FILE RECORD IS NOT UPDATABLE FROM THESE EXIT POINTS

<u>AFXEXITP</u>	<u>DS</u>	<u>CL1</u>	<u>EXIT POINT TYPE</u>
AFXITEM	EQU	9	SINGLE ITEM COMPLETION EXIT
AFXAPPL	EQU	10	SINGLE APPL COMPLETION EXIT
AFXAPPL2	EQU	11	APPL IN GROUP COMPLETION EXIT
AFXGROUP	EQU	12	GROUP COMPLETION EXIT
AFXPRAPL	EQU	13	PRE APPL CLOSE PROCESSING EXIT

```

*-----*
*                OPEN/CLOSE/ALLOCATE/FREE DATA                *
*-----*
*
*                EXIT RETURN CODE                                *
*                (ONE BYTE WITH MULTIPLE NAMES)                  *
*-----*

```

<u>AFXRC</u>	<u>DS</u>	<u>0CL1</u>	<u>GENERAL RETURN CODE</u>
	AFXCANC	EQU X'80'	....DO NOT PERFORM REQUEST
	AFXBYPSS	EQU X'40'	BYPASS THIS OPERATION
	AFXDOIT	EQU X'00'	....DO PERFORM REQUEST
	AFXCANAP	EQU X'20'	....DO NOT PERFORM APPL CLOSE REQUEST
AFXPRARC	DS	0CL1	PRE-ALLOCATION EXIT RETURN CODE
	AFXNOALO	EQU X'80'	....DO NOT ALLOCATE DDNAME
	AFXALLOC	EQU X'00'	....ALLOCATE DDNAME
AFXPSARC	DS	0CL1	POST-ALLOCATION EXIT RETURN CODE
	AFXNOOPN	EQU X'80'	....DO NOT LET THE DDNAME BE OPENED
	AFXOPEN	EQU X'00'	....LET THE DDNAME BE OPENED
AFXPRFRC	DS	0CL1	PRE-FREE EXIT RETURN CODE
	AFXNOFRE	EQU X'80'	....DO NOT FREE THE DDNAME
	AFXFREE	EQU X'00'	....FREE THE DDNAME
AFXPRORC	DS	0CL1	PRE-OPEN EXIT RETURN CODE
	*	EQU X'80'	....DO NOT OPEN DDNAME
	*	EQU X'00'	....OPEN DDNAME
AFXPRCRC	DS	CL1	PRE-CLOSE EXIT RETURN CODE
	AFXNOCLS	EQU X'80'	....DO NOT CLOSE DDNAME
	AFXCLOSE	EQU X'00'	....CLOSE DDNAME

# CAFC FEATURES AND CONSIDERATIONS

## ON-LINE USER EXIT POINTS - CONTINUED

```

*-----*
AFXDDNAM DS    CL8                      CAFC ITEM NAME (DDN OR DDIRSYM)
AFXTBLET DS    CL1                      CICS TABLE ENTRY TYPE
AFXFCT  EQU    C'D'                    ....FCT TABLE ENTRY
AFXDCT  EQU    C'T'                    ....DCT TABLE ENTRY
AFXDLI  EQU    C'I'                    ....DDIR TABLE ENTRY
AFXALORC DS    CL1                      DYNAMIC ALLOCATION SVC RETURN CODE
AFXALORS DS    CL4                      DYNAMIC ALLOCATION SVC REASON CODE
AFXALOIC DS    CL4                      DYNAMIC ALLOCATION SVC INFO CODE
AFXOPNRC DS    0CL1                    OPEN RETURN CODE
AFXCLSRC DS    CL1                      CLOSE RETURN CODE
AFXFAILC DS    H                        NUMBER OF DDNS THAT FAILED TO
*                                           ALLOC/FREE FOR A DL/1 DATABASE
AFXCMTRC DS    H                        CEMT RETURN CODE
          DS    H                        AVAILABLE
AFXRCD  DS    F                        AFC TABLE FILE RECORD ADDRESS
* IF AFXTBLET = AFXFCT, ---> CICSDDN
* IF AFXTBLET = AFXDCT, ---> CICSDDN
* IF AFXTBLET = AFXDLI, ---> CICSDBD
*-----*
AFXDSUPD DS    CL44                     DATASET NAME UPDATE FIELD
AFXUSRER DS    XL2                      USER SUPPLIED ERROR CODE
AFXUSRMS DS    CL24                     USER SUPPLIED ERROR MESSAGE

*-----*
*           REQUEST COMPLETION DATA           *
*-----*
AFXREQST DS    CL8                      REQUEST
AFXENTYP DS    CL2                      REQUEST TYPE (DD, I, A, ....)
AFXREQBY DS    CL8                      REQUESTED BY

*-----*
*           REQUEST COMPLETION EXIT DATA       *
*-----*
AFXGNAME DS    CL8                      GROUP NAME
AFXANAME DS    CL8                      APPL NAME
AFXINAME DS    CL8                      ITEM NAME
*-----*
AFX#DDNS DS    H                        NUMBER OF DDNAMES IN ITEM/APPL/GROUP
AFX#ERRS DS    H                        NUMBER OF ERRORS PROCESSING REQUEST
AFXALOSM DS    CL8                      DYNAMIC ALLOCATION SVC SMS REASON CODE

```

**ON-LINE USER EXIT POINTS - CONTINUED**

To provide full support for Computer Associate's Datacom/DB running under CICS, CAFC supplies the exit program, AFCPDCOM. The JCL to assemble this exit is provided in the member, ASMPDCOM, in the CAFC installation library.

AFCPDCOM is driven by CAFC pre-OPEN and pre-CLOSE requests for Type "U" user file records. The exit program determines whether Datacom/DB should be invoked. If it should be invoked, AFCPDCOM links to Datacom/DB's communication module. Review the source of these modules for more details.

Datacom Release 7.4 or previous - DBCOCPR

Datacom Release 7.5 or higher - DCCOCPR

If the 'USER EXIT PGM NAME ==>' option is left blank on the EXITS option panel under the Customization Options, then the Datacom/DB user exit program for Type "U" records must be named and linked as AFCP2UEX. If a program name is specified, then the user exit program will be called globally for all requests against all types of files.

## CAFC FEATURES AND CONSIDERATIONS

**EXCLUDE TABLE**

The Exclude Table provides users the ability to exclude ddnames, dct entries, or transactions from CAFC processing if they do not want the resource under CAFC's control. Simply add the resources to the AFCTXCLD table and assemble it into the CAFC DFHRPL loadlib. Sample table named AFCTXCLD and assembly jcl name ASMTXCLD are provided in the installation source pds.

Below is a sample which shows DCT entry DT08, FCT entries QAFCT20 and QAFCT03, and PCT entry AFCC are to be excluded from any CAFC processing. This table will be loaded during the CAFC initialization process.

```
*****
*                                     A F C T X C L D                                     *
*                                                                                       *
*  FUNCTION -   PROVIDE LIST OF FCT DDNAMES AND DCT DESTIDS                       *
*               FOR A QUICK CHECK TO AVOID CAFC PROCESSING.                       *
*****
EJECT
SPACE 3
$EXCLUDE TYPE=INITIAL
$EXCLUDE TYPE=ENTRY, TABLE=DCT, DESTID=DT08
$EXCLUDE TYPE=ENTRY, TABLE=FCT, DDNAME=QAFCT20
$EXCLUDE TYPE=ENTRY, TABLE=FCT, DDNAME=QAFCT03
$EXCLUDE TYPE=ENTRY, TABLE=PCT, TRANID=AFCC
$EXCLUDE TYPE=FINAL
END
```

## CUSTOMIZATION OPTIONS

The CAFC Primary Option Menu (#201), pictured below, allows the user to perform actions to control: individual region operation, CICS files, DLI databases, transactions, FCT entries, passwords and other CICS resources. Enter a '5' in the SELECT OPTION field to retrieve the PRIMARY CUSTOMIZATION OPTION MENU. This menu presents user controlled options that effect individual CICS region operation.

```

-----CAFC REL 4.5.00 PRIMARY OPTION PANEL-----CAFC PANEL# 201
SELECT OPTION ==>

                                USERID      - MASTER
                                TIME         - 17:29

```

## CAFC FEATURES AND CONSIDERATIONS

TERMID - NT6B  
CICSID - CICS99P

- 1 BROWSE.....DISPLAY BROWSE ENTRY MENU
- 2 EDIT.....DISPLAY EDIT ENTRY MENU
  
- 3 REQUESTS.....DISPLAY PRIMARY REQUEST MENU
- S STATUS.....DISPLAY STATUS REQUEST MENU
- R RDO REQUESTS DISPLAY PRIMARY RDO REQUEST MENU
- 4 PASSWORD.....CHANGE YOUR PASSWORD
- 5 OPTIONS.....DISPLAY CUSTOMIZATION OPTIONS MENU
- 6 MESSAGE.....SEND USER MESSAGE
- 7 UTILITY.....DISPLAY UTILITY SERVICES MENU
- 8 REPORTS.....DISPLAY REPORT SERVICES MENU

PRESS CLEAR KEY TO TERMINATE CAFC

PF1-HLP PF2-2ND SES PF3-END PF4-RET

PF9-ALT SES

The eight options on the PRIMARY OPTION MENUS are briefly described below.

BROWSE allows you to specify a CAFC table type, retrieve it and review it on-line. This is a "read only" facility. Updates are not supported.

EDIT allows you to specify a CAFC table type, retrieve it, and review it and perform on-line maintenance

REQUESTS allow you to change the status of CICS resources registered to CAFC. Requests may target individual items such as a ddname, Group lists, Applications lists, or a generic scope applied to any of the above resources. Requests may target:

**CUSTOMIZATION OPTIONS - CONTINUED**

STATUS requests present the status of the resources registered to CAFC. The functions may target individual items such as a transaction, a DBD, ddname, Group lists, Applications lists, or a generic scope applied to any of the above resources. Group and Application lists may be exploded to display the individual components and their respective status.

RDO REQUESTS allows you to perform requests against RDO resources directly without having the resource defined in the CAFC tablefile. No automatic services are performed with the RDO requests.

PASSWORD allows you to change the current PASSWORD for access to the CAFC Table File. The default PASSWORD is 'PASSWORD'. The default USERID is 'MASTER'.

OPTIONS takes you to the CUSTOMIZATION OPTIONS MENU. These options are described in the next section.

MESSAGE FACILITY maintains triggering events, message text and list of users and terminals. A message will automatically be sent to a list of users or terminals if the status of a target CAFC resource changes.

UTILITY SERVICES is a collection of functions that support or change the operational status of CAFC or the resources under its control.

REPORTS allows you to produce reports on CAFC resources online as opposed to running a batch utility. Detail reports and summary reports of all resources in the CAFC table including the control record and be produced.

**CUSTOMIZATION OPTIONS - CONTINUED****CUSTOMIZATION OPTION MENU**

The Customization Option Menu controls a series of panels that tailor CAFC's operation for the unique requirements of an individual CICS region. Changes to the default option settings are maintained on the region's CAFC Table File. When you modify an option, the change goes into effect immediately. The target CICS region DOES NOT have to be cycled. All CAFC programs that depend on customization parameters, interrogate a memory resident copy of these customization parameters before they carry out direct or indirect CAFC requests.

The user updates the various customization options by selecting a scrollable secondary option panel from the list on the Customization Option Menu (#20S) pictured below.

```

+-----+
|----- CUSTOMIZATION OPTION MENU      (189) OPTIONS UPDATED
|SELECT OPTION ==>
|
|  _  1  FCT WARM START                _ 16  RPL
|  _  2  DCT WARM START                _ 17  SPECIAL OPTIONS
|  _  3  PCT WARM START                _ 18  MESSAGE FACILITY
|  _  4  OTR WARM START                _ 19  DSNAME VARIABLES
|                                     _ 20  COMMANDS
|  _  6  BATCH INTERFACE                _ 21  PFKS
|  _  7  USER EXITS                    _ 22  DBCNTL
|  _  8  SECURITY                       _ 23  VSAM RLS SUPPORT
|  _  9  AUDIT
|  _ 10  WTO
|  _ 11  AFCPSIPY
|  _ 12  REQUEST
|  _ 13  EDIT
|  _ 14  HSM
|  _ 15  EXEC CICS SUPPORT
|PRESS  CLEAR KEY TO TERMINATE CAFC
|
|PF1-HLP  PF2-2ND SES  PF3-END  PF4-RET                                PF9-ALT SES
+-----+

```

**CUSTOMIZATION OPTIONS SUMMARY**

This section provides a brief description of the type of information controlled by each panel.

<u>Panel</u>	<u>Description</u>
1 FCT WARM START	UPDATE FCT/PCT WARM START These options control CAFC warm start for FCT CAFC Table File entries.
2 DCT WARM START	UPDATE DCT WARM START These options control CAFC warm start for DCT and Type=0, Other, CAFC Table File entries.
3 PCT WARM START	UPDATE PCT WARM START These options control CAFC warm start for PCT CAFC Table file entries.
4 OTR WARM START	UPDATE OTR WARM START These options control CAFC warm start for Type=0 CAFC Table file entries.
6 BATCH INTERFACE	UPDATE BATCH INTERFACE OPTIONS These options control selection of the LU6.2 or EXCI mode and the operation of the Batch Interface program facility.
7 USER EXITS	UPDATE USER EXIT OPTIONS These options control the user exit program name for the Allocation/Free/Open/Close global user exit.
8 SECURITY	UPDATE SECURITY/AUDIT OPTIONS These options control the level and type of on-line security checking within CAFC transactions.
9 AUDIT	UPDATE AUDIT TRAIL OPTIONS These options control the audit trail operation.
10 WTO	UPDATE WTO OPTIONS
11 AFCPSIPY	UPDATE AFCPSIPY EARLY ALLOCATION OPTIONS



**CUSTOMIZATION OPTIONS SUMMARY - CONTINUED**

<u>Panel</u>	<u>Description</u>
12 REQUEST	UPDATE REQUEST OPTIONS These options control close request retries, automatic allocation and the automatic enabling and disabling of ddname entries.
13 EDIT	UPDATE EDIT OPTIONS These options control the automatic sorting for display purposes for the CAFC application and group components and automatic saving on edit panels.
14 HSM	UPDATE HSM OPTIONS These options control the interval and iteration algorithm for HSM Recall support.
15 SUPPORT EXEC CICS	ACTIVATE DCT/DLI/PCT/FCT/RLS/DBCTL SUPPORT These options extended CAFC's automatic support to native CEMT set commands and to EXEC CICS calls that affect the status of FCTs, DCTs, DLI databases and transactions along with controlling DBCTL, RLS and automatic shutdown support.
16 RPL	UPDATE RPL OPTIONS These options control RPL recon catenation error recovery and DFHRPL warm start parameters.
17 SPECIAL OPTIONS	UPDATE SPECIAL OPTIONS These options control unique features that were originally implemented through custom superzaps. The features can now be activated and deactivated through these flags.
18 MESSAGE FACILITY	UPDATE MESSAGE FACILITY OPTIONS These options control the automatic message facility.
19 DSNAME VARIABLES	UPDATE DSNAME VARIABLES OPTIONS List of user defined variable definitions and their values
20 COMMANDS	DESCRIPTION OF CUSTOMIZATION COMMANDS
21 PFKS	DESCRIPTION OF CUSTOMIZATION PF-KEYS
22 DBCTL	UPDATE DBCTL OPTIONS
23 VSAM RLS SUPPORT	UPDATE VSAM RLS OPTIONS

## CAFC FEATURES AND CONSIDERATIONS

## FCT WARM START CUSTOMIZATION OPTIONS

Pictured below are the parameters for updating CAFC's FCT Warm Start options. The FCT Warm Start Option is used to enable or disable the CAFC FCT warm start processing by the CAFC program AFPCWARM at PLTPI time. This option can be overridden by including the operand 'WARMFCT=x' in your CAFCPARM input stream within the CICS startup jcl; Where 'x' is equal to 'Y' for YES or 'N' for NO. The default value for a CAFC Warm start is NO.

WARM START FCT ENTRIES ==> Y    Y = AUTOMATIC WARM START (PLTPI)  
N = NO WARM START

FCT WARM START ACTIONS  
IF LAST REQUEST WAS:

THEN WARM START ACTION WILL BE:

BYTE 1 VALUES:      BYTE 2 VALUES:

```

OPEN  ENABLE==> FE
CLOSE ENABLE==> CE
ALLOCATE ENABLE==> AE
FREE  ENABLE==> FE
RECALL ENABLE==> RE

```

```
X = NO ACTION
O = OPEN
C = CLOSE
A = ALLOCATE
F = FREE
R = RECALL
```

X = NO ACTION  
E = ENABLE  
D = DISABLE  
U = UNENABLE

```
OPEN DISABLE==> OD
CLOSE DISABLE==> CD
ALLOCATE DISABLE==> AD
FREE DISABLE==> FD
RECALL DISABLE==> RD
```

```
X = NO ACTION
O = OPEN
C = CLOSE
A = ALLOCATE
F = FREE
R = RECALL
```

X = NO ACTION  
E = ENABLE  
D = DISABLE  
U = UNENABLE

```
CLOSE UNENABLE==> CU
ALLOCATE UNENABLE==> AU
FREE UNENABLE==> FU
RECALL UNENABLE==> RU
```

X = NO ACTION  
O = OPEN  
C = CLOSE  
A = ALLOCATE  
F = FREE  
R = RECALL

```
X = NO ACTION
E = ENABLE
D = DISABLE
U = UNENABLE
```

READONLY==> RO  
UPDATE==> UP

```
XX = NO ACTION
RO = READONLY
UP = UPDATE
```

**FCT WARM START CUSTOMIZATION OPTIONS - CONTINUED**

The above parameters control the CAFC warm start processing for FCT entries. This matrix specifies the mapping from the status of all CAFC defined FCT entries at the termination of the previous CICS session to the initial status of these FCT entries to be established by CAFC warm start processing. See CAFC WARM START FEATURES AND CONSIDERATIONS later in this manual for details and examples. **Files must be defined as Filstat=Closed or Opentime=Firstref in the FCT so that the CICS CSFU transaction, which automatically runs just after the PLTPI programs, will not open the files.**

NOTE: The CICS program, DFHEIQDS, must be defined in the PPT to enable AFPCWARM to issue CEMT inquiries and set commands successfully. If the CICS program, DFHEIQDS, is not in the PPT, an AEY9 abend will occur when CAFC issues CEMT commands.

**DEFAULT WARM START VALUES**

<u>LAST REQUEST COMBINATION WAS</u>	<u>WARM START ACTION</u>
O E (open, enable)	O E (open, enable)
O D (open, disable)	O D (open, disable)
O U (not possible)	X X (no action)
C E (close, enable)	C E (close, enable)
C D (close, disable)	C D (close, disable)
C U (close, unenable)	C U (close, unenable)
A E (allocate, enable)	A E (allocate, enable)
A D (allocate, disable)	A D (allocate, disable)
A U (allocate, unenable)	A U (allocate, unenable)
F E (free, enable)	F E (free, enable)
F D (free, disable)	F D (free, disable)
F U (free, unenable)	F U (free, unenable)
R E (recall, enable)	R E (recall, enable)
R D (recall, disable)	R D (recall, disable)
R U (recall, unenable)	R U (recall, unenable)

**DCT WARM/COLD START CUSTOMIZATION OPTIONS**

Pictured below are the parameters for controlling CAFC's DCT Warm and Cold Start options. The DCT Warm Start Option is used to enable or disable the CAFC DCT warm start processing by program AFPCPWARM at PLTPI time. This option can be overridden by including the operand 'WARMDCT=x' in your CAFCPARM input stream within the CICS startup jcl; Where 'x' is equal to 'Y' for YES or 'N' for NO.

COLD START DCT ENTRIES ==> N	Y = ALLOCATE FOR CICS DCT COLD START
	N = NO COLD START
WARM START DCT ENTRIES ==> Y	Y = AUTOMATIC WARM START (PLTPI)
	N = NO WARM START

DCT WARM START ACTIONS  
IF LAST REQUEST WAS:

THEN WARM START ACTION WILL BE:

		BYTE 1 VALUES:	BYTE 2 VALUES:
OPEN ENABLE ==> OE		X = NO ACTION	X = NO ACTION
CLOSE ENABLE ==> CE		O = OPEN	E = ENABLE
ALLOCATE ENABLE ==> AE		C = CLOSE	D = DISABLE
FREE ENABLE ==> FE		A = ALLOCATE	
RECALL ENABLE ==> RE		F = FREE	
		R = RECALL	
OPEN DISABLE ==> OD		X = NO ACTION	X = NO ACTION
CLOSE DISABLE ==> CD		O = OPEN	E = ENABLE
ALLOCATE DISABLE ==> AD		C = CLOSE	D = DISABLE
FREE DISABLE ==> FD		A = ALLOCATE	
RECALL DISABLE ==> RD		F = FREE	
		R = RECALL	

**OTR WARM START CUSTOMIZATION OPTIONS**

Pictured below are the parameters for updating CAFC's OTR Warm Start options. The OTR Warm Start Option is used to enable or disable the CAFC OTR warm start processing by program AFPCPWARM at PLTPI time. This option can be overridden by including the operand 'WARMOTR=x' in your CAFCPARM input stream within the CICS startup jcl; Where 'x' is equal to 'Y' for YES or 'N' for NO.

WARM START OTR ENTRIES ==> Y	Y = AUTOMATIC WARM START (PLTPI)
	N = NO WARM START (Default Value)

**B/I LU6.2 CUSTOMIZATION OPTIONS**

Pictured below are the parameters for controlling Batch Interface options. The parameters presented on this screen vary with CONNECTION TYPE selected. This screen displays the parameters associated with a 'L' or an ACF/VTAM LU6.2 connection. LU6.2 is the default value.

```

CONNECTION TYPE          ==> L          L = LU6.2
                               E = EXCI

ONLINE TRANSACTION CODE:
    BATCH INTERFACE      ==> AFCB CICS TRANSACTION CODE
    DSNAME CHANGE       ==> AFCM CICS TRANSACTION CODE
    XPGM REQUEST        ==> AFCX CICS TRANSACTION CODE

SEQUENTIAL TERMINAL ID:
    XPGM REQUEST        ==> SEQX CICS TERMINAL ID

BATCH SECURITY:
    SIGNON METHOD        ==> NONE = NO SIGNON REQUIRED BY CICS
                               FMH5 = VTAM FUNCTIONAL MANAGEMENT HEADER
    SECURE CEMT TRANS   ==> N          (Y/N) ISSUE SECURITY CHECK ON CEMT TRANS
    USERID              ==>
    PASSWORD            ==>
    BATCH JOBNAME USERID ==> N          (Y/N) USE BATCH JOBNAME AS USERID IN LOGS

IF THE CICS ABENDED:    THEN BATCH INTERFACE ACTION WILL BE:
    ACTION CODE         ==> C          C = CONTINUE; IGNORE CICS ABEND
                               W = ISSUE WTOR FOR TERMINATION OPTIONS
                               T = TERMINATE WITH FOLLOWING RETURN CODE
    RETURN CODE         ==> 16        DECIMAL VALUE

MULTIPLE LU NAMES:
    ENQUEUE WAIT INTERVAL ==> 00010000    TIME VALUE  HHMMSSSTH
    MESSAGE FREQUENCY     ==> 02          DECIMAL VALUE

TIME OUT LIMIT:
    TIME OUT INTERVAL     ==> 00030000    TIME VALUE  HHMMSSSTH
    XPGM REQUEST         ==> 00030000    TIME VALUE  HHMMSSSTH

LU0 PROCESSING:
    FORMAT OUTPUT DATA   ==> N          (Y/N) SHOW OUTPUT DATA IN SCREEN FORMAT

```

**B/I LU6.2 CUSTOMIZATION OPTIONS - CONTINUED****BATCH INTERFACE TIMEOUT INTERVAL**

After the Batch Interface Program, AFCP2016, issues a RECEIVE, it sets a timer with a default limit of 2 minutes. If CICS does not respond within 2 minutes, AFCP2016 will terminate with the message 'WAIT TIME EXPIRED - CICS NO RESPONSE'. This situation is often related to poor CICS performance or to a data set being tied up by a user for an unusually long period of time. If your site frequently encounters this problem, you should increase the B/I's TIMEOUT value. The value is given in the following format:

```
00000000      - (hhmmsssth)
Default value is ==> 00020000
```

Depending on your operation, one of the two methods below will solve the premature timeout situation.

**PROVIDING A NEW REGION WIDE TIMEOUT VALUE VIA THE CAFC TABLE FILE**

If you set a new TIMEOUT value through the B/I Option Screen, you must also provide the B/I program, AFCP2016, access to the dsname of target CICS region's CAFC Table File. There are two ways to accomplish this.

Reassemble the ACB Association Table, AFCT2016. In the AFCT2016 table, make sure you record the associated dsname of the CAFC Table File on the macro statement for the CICS region's APPLID.

Or,

Include a DD statement with the CICS region's CAFC Table File dsname in the B/I jobstep's execution JCL.

Either of these actions will provide the B/I access to the current TIMEOUT value stored in the CAFC Table File. If the B/I program, AFCP2016, does not have access to the region's CAFC Table File, AFCP2016 will default to an internal TIMEOUT value of 2 minutes. Contact Netec technical support if you wish to permanently change AFCP2016's 2-minute internal default TIMEOUT value.

**PROVIDING A NEW TIMEOUT VALUE FROM A BATCH JOBSTEP**

You may individually set or override the TIMEOUT value for a specific jobstep. Place the following operand and new value, 'TIMEOUT = hhmmsssth', in the parm input area for the batch job. The parm input area is identified by the ddname CAFCPARM. The value will be honored for this single jobstep.

**B/I LU6.2 CUSTOMIZATION OPTIONS - CONTINUED****MULTIPLE LU NAMES ENQUEUE WAIT INTERVAL**

Before attempting to establish a session with CICS, the Batch Interface Program checks, via enqueues, the availability of the LU names specified in AFCT2016. If the end of the list is reached without finding an available (not busy) LU name, the program waits for an interval of time before reprocessing the list. The wait value specified must be in the following format:

```
00000000      - (hhmmsssth)
Default value is ==> 00020000
```

Please see PROVIDING ACCESS TO A NEW TIMEOUT VALUE in the BATCH INTERFACE TIMEOUT description.

**SETTING THE ENQUEUE WAIT INTERVAL FROM A BATCH JOBSTEP**

You may specify a override wait interval at run time by coding the LUTIME=hhmmsssth keyword in the parm input area of the batch job identified by the ddname CAFCPARM.

**MULTIPLE LU NAMES MESSAGE FREQUENCY**

After the Batch Interface program reaches the end of the LU names list without finding an available LU name, the program checks the "message frequency" value. Each time the number of unsuccessful searches through the list of LUs equals the message "frequency value", the B/I program writes a message to the operator console. The "message frequency" value must be a 2-digit numeric value.

```
Default value is ==> 03
```

**SETTING THE MESSAGE FREQUENCY FROM A BATCH JOBSTEP**

You may specify an override message frequency at run time by coding the LUMSG=nn keyword in the parm input area of the batch job identified by the ddname CAFCPARM.

**SIGNON METHOD**

If you require a CICS sign-on to authorize the CAFC B/I transaction, AFCEB, the sign-on information can be provided through the VTAM Function Management Header (FMH5). The sign-on name and password may be supplied in one of three ways: (1) through a data set defined within the Batch Interface execution JCL, (2) through sign-on information specified on the Batch Interface Options panel and permanently stored in the CAFC Table File (AFCEB4000) or (3) the userid can be obtained from the Accessory Environment Element(ACEE). In Method 3, there is no password passed. Sign-on Method 3 will be used if no sign-on name and password are provided in either the B/I job step JCL or in the AFCEB4000 Table File.

**B/I LU6.2 CUSTOMIZATION OPTIONS - CONTINUED**

If your sign-on information is stored in the CAFC Table File, you must include a DD statement for the CAFC Table File, with a ddname matching your CICS APPLID, in the Batch Interface jobstep's JCL.

The CAFC Batch Interface will not attempt a sign-on if the SIGNON METHOD is specified as NONE. The SIGNON METHOD is always determined by the parameters entered into the Customization Options.

SIGNON METHOD - FMH5      use VTAM's FMH5 signon. If (1) the CAFC AFCB transaction requires external security or (2) a security level greater than '01', then you MUST USE the FMH5 sign-on method. Add the ATTACHSEC=IDENTIFY parameter to the CONNECTION for the LU6.2 definition. Specify a Security name authorized to execute AFCB. If the security name field is left blank the connection will be logged on with CICS's default userid, so this userid must have access to the AFCB transaction.

NONE - use no signon.

Default value ==> NONE

SIGNON NAME              The Operator Name, in the CICS sign-on Table (DFHSNT), may be up to 20 bytes long. If the operator name is used here you must supply a valid password.

SIGNON PASSWORD        Up to 8 bytes long specifying the Operator's Password as specified in the External Security Manager's or CICS Sign-on Table(DFHSNT).

Default value ==> NONE

SECURE CEMT TRANS       Issue QUERY SECURITY check when BATCH CEMT command request is issued.

Default value ==> N

BATCH JOBNAME USERID    USE BATCH JOBNAME AS USERID IN LOG MESSAGES.

Default value ==> N      Y = USE BATCH JOBNAME AS USERID  
                              N      N = USE USERID IN LOGS



**B/I LU6.2 CUSTOMIZATION OPTIONS - CONTINUED****BATCH INTERFACE ONLINE TRANSACTION CODE**

The B/I uses a default transaction code of AFCEB to communicate with its CICS components. If you wish to change the B/I transaction, simply change the B/I Online Transaction Code option on this panel. Ensure that the desired transaction code has been assembled in the DFHPCT table with a program of AFCEP2015.

Default value ==> AFCEB

NOTE: If this transaction name is changed, the transaction name specified in the CICS XLT must also be changed. Insure that the TASKDATALOC is set to BELOW under CICS Versions 3.3 and 4.1.

**DSNAME CHANGE ONLINE TRANSACTION CODE**

The B/I uses a default transaction code of 'AFCEM' to communicate with CICS whenever a data set name change request is issued. If you wish to change the B/I data set name change transaction identification, enter the new tranid in the Dsname Change Online Transaction Code option on this panel. Check that your new transaction code has been assembled in the DFHPCT table and is associated with the program, AFCEP2015.

Default value ==> AFCEM

Note: If this transaction name is changed, the transaction name specified in the CICS XLT must also be changed.

**BATCH INTERFACE ACTION IF CICS ABENDS**

The CICS region UP indicator, CTLCUP, is set on by CAFC's PLTPPI program, AFCEP2020. The CTLCUP is set off by CAFC's shutdown program, AFCEP9999. This indicator is referenced each time a B/I request accesses the CAFC Table file when the target CICS region is down.

The B/I program, AFCEP2016, checks the CTLCUP indicator and takes the action you have specified as the Batch Interface Customization Option. There are three options:

- "C" Continue Batch Interface processing without consideration of the crash indicator. This is the default value.
- "W" Inform the MVS console operator, if CICS has crashed, and issue a WTOR for 'GO or Cancel'. If 'GO' is replied, the Table File will be updated. If 'Cancel' is replied, the batch job will terminate.
- "T" Terminate the Batch Interface Step with the return code specified on the Batch Option Panel.

**B/I LU6.2 CUSTOMIZATION OPTIONS - CONTINUED**

The CICS Region UP indicator can be reset to OFF by the batch program, AFPCP2027. Run this program with the JCL member CTLCUP in your CAFC Installation Library if: (1) you have set the CICS Abend option to something other than 'C', and (2) you want subsequent Batch Interface Requests to ignore the crash condition. Remember, that an IPL will set the CICS UP indicator to a crash condition in all of your previously active CICS regions. If you experience an IPL, you must run the CTLCUP jobstream against all of the regions you wish to reset.

**RETURN CODE**

Return code for batch job step if terminate is selected for the CICS ABEND option. The default return code is "16".

**XPGM REQUEST TRANSACTION**

The B/I uses a default transaction code of AFCX to communicate with its CICS components when an XPGM request is scheduled. If you wish to change this B/I transaction, simply change the B/I XPGM REQUEST Transaction Code option on this panel. Ensure that the desired transaction code has been assembled in the DFHPCT table with a program of AFPCP2110.

**SEQUENTIAL TERMINAL ID FOR XPGM REQUESTS**

When a XPGM request is scheduled, a sequential terminal is needed for program AFPCP2110 to run on. The B/I uses a default sequential terminal id of SEQX for this purpose. If you wish to change this B/I terminal id, simply change the Sequential Terminal ID for XPGM Request option on this panel. Ensure that the desired sequential terminal definition has been defined to CICS via the DFHTCT table. A sample sequential terminal definition for SEQX has been provided in the CAFC install library as member TCTSEQX. Be sure to include the input and output dd statements for the sequential terminal in the CICS startup JCL.

**XPGM REQUEST TIMEOUT VALUE**

After the Batch Interface Program, AFPCP2016, schedules the AFCX transaction via the XPGM request, it sets a timeout value with a default of 5 minutes. If the program being started does not complete in 5 minutes the batch job will terminate with the message, 'TIMEOUT WHILE LINKED TO XXXXXXXX', where 'XXXXXXX' is the program being linked to. The value is given in the following format:

```
00000000      - (hhmmsssth)
Default value is ==> 00050000
```

**B/I LU6.2 CUSTOMIZATION OPTIONS - CONTINUED**

**FORMAT OUTPUT DATA**

When a LU0 TRAN request is processed the received response data is displayed unformatted just as it is returned in the buffer. To have the output data formatted into screen format specify 'Y' for this option. Default value is 'N'.

**B/I EXCI CUSTOMIZATION OPTIONS**

The following is the customization option menu for an EXCI connection.

## ----- BATCH OPTIONS -----

CONNECTION TYPE ==> E L = VTAM LU6.2  
E = CICS EXCI  
APPL CONNECTION ==> G G = GENERIC APPLID

## ONLINE TRANSACTION CODE:

EXCI TRANID ==> AFCI CICS TRANSACTION CODE  
DSNAME CHANGE ==> AFCM CICS TRANSACTION CODE  
XPGM REQUEST ==> AFCX CICS TRANSACTION CODE

## SEQUENTIAL TERMINAL ID:

XPGM REQUEST ==> SEQX CICS TERMINAL ID

## BATCH SECURITY

SECURITY CEMT TRANS ==> N (Y/N) ISSUE SECURITY CHECK ON CEMT TRANS  
USERID ==>  
PASSWORD ==>  
BATCH JOBNAME USERID ==> N (Y/N) USE BATCH JOBNAME AS USERID IN LOGS

## IF THE CICS ABENDED:

THEN BATCH INTERFACE ACTION WILL BE:

ACTION CODE ==> C C = CONTINUE; IGNORE CICS ABEND  
W = ISSUE WTOR FOR TERMINATION OPTIONS  
T = TERMINATE WITH FOLLOWING RETURN CODE

RETURN CODE ==> 16 DECIMAL VALUE

## EXCI CONNECTION PARMS:

WAIT INTERVAL ==> 00020000 TIME VALUE HHMMSSSTH  
FREQUENCY ==> 03 DECIMAL VALUE

## TIME OUT LIMIT:

TIME OUT INTERVAL ==> 00030000 TIME VALUE HHMMSSSTH  
XPGM REQUEST ==> 00010000 TIME VALUE HHMMSSSTH

## LU0 PROCESSING:

FORMAT OUTPUT DATA ==> N (Y/N) SHOW OUTPUT DATA IN SCREEN FORMAT

**BATCH INTERFACE EXCI ONLINE TRANSACTION CODE**

The B/I uses a default transaction code of AFCI to communicate with its CICS components. If you wish to change the B/I transaction, simply change the B/I Online Transaction Code option on this panel. Ensure that the desired transaction code has been assembled in the DFHPCT table or added to the CSD with a program of DFHMIRS and a profile of DFHCICSA.

Default value ==> AFCI

NOTE: Insure that the TASKDATALOC is set to BELOW.

**DSNAME CHANGE ONLINE TRANSACTION CODE**

The B/I uses a default transaction code of 'AFCM' to communicate with CICS whenever a data set name change request is issued. If you wish to change the B/I data set name change transaction identification, enter the new tranid in the Dsname Change Online Transaction Code option on this panel.

**B/I EXCI CUSTOMIZATION OPTIONS-CONTINUED**

Check that your new transaction code has been assembled in the DFHPCT table and is associated with the program, AFCEP2015.

Default value ==> AFCEM

Note: If this transaction name is changed, the transaction name specified in the CICS XLT must also be changed.

**BATCH INTERFACE ACTION IF CICS ABENDS**

The CICS region UP indicator, CTLCUP, is set on by CAFC's PLTPI program, AFCEP2020. The CTLCUP is set off by CAFC's shutdown program, AFCEP9999. This indicator is referenced each time a B/I request accesses the CAFC Table file when the target CICS region is down.

The B/I program, AFCEP2016, checks the CTLCUP indicator and takes the action you have specified as the Batch Interface Customization Option. There are three options:

- "C" Continue Batch Interface processing without consideration of the crash indicator. This is the default value.
- "W" Inform the MVS console operator, if CICS has crashed, and issue a WTOR for 'GO or Cancel'. If 'GO' is replied, the Table File will be updated. If 'Cancel' is replied, the batch job will terminate.
- "T" Terminate the Batch Interface Step with the return code specified on the Batch Option Panel.

The CICS Region UP indicator can be reset to OFF by a batch program, AFCEP2027. Run this program with the JCL member CTLCUP in your CAFC Installation Library if: (1) you have set the CICS Abend option to something other than 'C', and (2) you want subsequent Batch Interface Requests to ignore the crash condition. Remember, that an IPL will set the CICS UP indicator to a crash condition in all of your previously active CICS regions. If you experience an IPL, you must run the CTLCUP jobstream against all of the regions you wish to reset.

**RETURN CODE**

Return code for batch job step if terminate is selected for the CICS ABEND option. The default return code is "16".

**XPGM REQUEST TRANSACTION**

The B/I uses a default transaction code of AFCEX to communicate with its CICS components when an XPGM request is scheduled. If you wish to change this B/I transaction, simply change the B/I XPGM REQUEST Transaction Code option on this panel. Ensure that the desired transaction code has been assembled in the DFHPCT table with a program of AFCEP2110.

**B/I EXCI CUSTOMIZATION OPTIONS - CONTINUED****SEQUENTIAL TERMINAL ID FOR XPGM REQUESTS**

When a XPGM request is scheduled, a sequential terminal is needed for program AFCP2110 to run on. The B/I uses a default sequential terminal id of SEQX for this purpose. If you wish to change this B/I terminal id, simply change the Sequential Terminal ID for XPGM Request option on this panel. Ensure that the desired sequential terminal definition has been defined to CICS via the DFHTCT table. A sample sequential terminal definition for SEQX has been provided in the CAFC install library as member TCTSEQX. Be sure to include the input and output dd statements for the sequential terminal in the CICS startup JCL.

**XPGM REQUEST TIMEOUT VALUE**

After the Batch Interface Program, AFCP2016, schedules the AFCX transaction via the XPGM request, it sets a timeout value with a default of 5 minutes. If the program being started does not complete in 5 minutes the batch job will terminate with the message, 'TIMEOUT WHILE LINKED TO XXXXXXXX', where 'XXXXXXX' is the program being linked to. The value is given in the following format:

00000000            -    (hhmmsssth)

Default value is ==> 00050000

**SECURE CEMT TRANS**

Issue QUERY SECURITY check when BATCH CEMT command request is issued.

Default value ==> N

**FORMAT OUTPUT DATA**

When a LU0 TRAN request is processed the received response data is displayed unformatted just as it is returned in the buffer. To have the output data formatted into screen format specify 'Y' for this option. Default value is 'N'.

**B/I EXCI CUSTOMIZATION OPTIONS - CONTINUED****EXCI SECURITY**

For a complete discussion of EXCI security please see the appropriate CICS EXCI manual for the versions of CICS you are executing. The CICS EXCI interface utilizes CICS IRC to communicate with a CICS region and the security features are the same for the B/I as those for CICS MRO connections. CICS applies security checks in several ways against requests received from the B/I. These checks fall into one of four areas, MRO logon and connect security performed by DFHIRP, link security performed by the CICS region, user security checking done in the CICS application program and surrogate user checking performed by the external CICS interface in the B/I program address space.

**MRO logon and bind-time security (specific connections only)**

DFHIRP, the CICS inter region communication program, performs two security checks against users that want to either logon to, or connect to a CICS region (also referred to as bind-time security). This logon security checking applies only to B/I program executions that are utilizing CICS connections that are defined as SPECIFIC connections. The MRO logon security check is not performed for generic connections. The B/I is treated just the same as another CICS region as far as MRO logon and connect (bind-time) security checking is concerned. This means that when the B/I program logs on to the interregion communication program, IRP performs logon and bind-time security checks against the USERID under which the B/I program is running (the batch region's userid). To enable the B/I program to logon successfully to IRP, and to connect to the target CICS region, first ensure that you define the batch region's userid in a user profile to your security system. When you have defined the batch region's userid to your security system, you can then give the batch job the appropriate logon and bind-time authorizations.

**LOGON AUTHORIATION (specific connections only)**

Authorize the B/I program's userid to the DFHAPPL.AFCP2015 RACF FACILITY class profile(s), with UPDATE authority. Failure to authorize the B/I program's userid to the DFHAPPL profile of the specific userid logging on to IRP causes Allocate\_Pipe processing to fail with RESPONSE(SYSTEM\_ERROR) REASON(IRC\_LOGON\_FAILURE). The subreason field-1 for a logon security check failure returns decimal 204 (XCC).

**B/I EXCI CUSTOMIZATION OPTIONS - CONTINUED****BIND-TIME AUTHORIZATION**

Authorize the B/I program's userid to the DFHAPPL.applid RACF FACILITY class profile of the target CICS server region, with READ authority. Failure to authorize the B/I program's userid to the CICS region's DFHAPPL.applid profile causes an Open\_Pipe processing to fail with RESPONSE(SYSTEM\_ERROR).

**REASON (IRC\_CONNECT\_FAILURE)**

The sub reason field-1 for a bind-time security check failure returns decimal 176 (XB0). See the CICS/ESA CICS-RACF Security Guide for information about the MRO logon and bind-time security checks, and for examples of how to define the RACF DFHAPPL profiles.

**LINK SECURITY**

The target CICS region performs link security checking against requests from the B/I program. These security checks cover transaction attach security (when attaching the mirror transaction), and resource and command security checking within the CAFC transaction program AFCEP2015. The link userid that CICS uses for these security checks is the B/I program's userid. To ensure these link security checks do not cause security failures, you must ensure that the link userid is authorized to the following resource profiles, as appropriate.

The profile for the CAFC EXCI transaction, AFCEI, or the transaction name must be specified in the system default parameters. This is required for transaction attach security checking.

The profiles for all the resources accessed by the CAFC EXCI transaction and programs, files, queues (transient data and temporary storage), programs, and so on. This is required for resource security checking. See the CICS/ESA CICS-RACF Security Guide for information about MRO link security checking.

**User security**

The CICS region performs user security checking against the userid passed by the B/I program on a DPL CALL request. This userid is the userid id that is either obtained:

- From the CAFC master file if specified or
- From the AFCCSSN DDNAME if present or
- From the Jobcard of the B/I program execution JCL.



**B/I EXCI CUSTOMIZATION OPTIONS - CONTINUED**

User security checking is performed only when connections specify ATTACHSEC(IDENTIFY). User security is performed in addition to any link security. For user security, in addition to any authorizations you make for link security, you must also authorize the userid specified on the DPL CALL request.

**RUNNING THE EXCI B/I WITH NO SECURITY**

If you want to run the CAFC B/I program without any security active, you must specify ATTACHSEC(LOCAL).

**SURROGATE USER CHECKING**

A surrogate user check is performed to verify that the batch region's userid is authorized to issue DPL calls for another user (that is, is authorized as a surrogate of the userid specified on the DPL\_request call). The CAFC B/I program is subject to surrogate user checking if SURROGCHK=YES (the default) is specified in the EXCI options table, DFHXCOPT. If you specify SURROGCHK=YES (or allow it to default) authorize the B/I program's userid as a surrogate of the userid specified on all DPL request calls. This means the B/I program's userid must have READ access to a profile named "userid.DFHEXCI" in the SURROGAT general resource class (where "userid" is the userid specified on the DPL call). If surrogate user checking is enabled (SURROGCHK=YES), but no userid is specified on the DPL call, no surrogate user check is performed, because the userid on the DPL call defaults to the batch region's userid. We recommend you enable surrogate processing. When surrogate processing is disabled, the userid obtained from the CAFC master file or the AFCCSSN ddname will not require password authorization or checking that the B/I program userid has the authority to submit CAFC request.

If you wish to disable surrogate user security checking, specify SURROGCHK=NO in the DFHXCOPT options table. The default is set to SURROGCHK=YES. Surrogate user checking is useful when the B/I program's userid is the same as the CICS region userid, in which case the link security is bypassed. In this case, a surrogate user check is recommended, because the USERID specified on the DPL call is not an authenticated userid (no password is passed). If the B/I programs userid and the CICS region userid are different, link security checking is enforced. With link security, a non-authenticated userid passed on a DPL call cannot acquire more authority than allowed by the link security check. It can acquire only the same, or less, authority than allowed by the link security check. For more information about CICS security, see the CICS/ESA CICS RACF Security Guide

**B/I EXCI CUSTOMIZATION OPTIONS - CONTINUED**

**AFCP2SOX B/I SECURITY EXIT, NOT CALLED**

Since the CAFC EXCI B/I connection method utilizes MRO security, not the CESN/CESF signon method, the B/I program LU6.2 security exit, AFCP2SOX, is NOT called.

**ON-LINE EXIT OPTIONS**

Pictured below are the parameters for updating CAFC's Exit options.

USER EXIT PROGRAM: TO BE CALLED BEFORE AND AFTER EVERY  
REQUEST TO OPEN, CLOSE, ALLOCATE OR

PROGRAM NAME ==> FREE ANY DDNAME DEFINED TO CAFC  
INVOKE AT COMPLETION ==> N Y = ALSO INVOKE EXIT AT COMPLETION  
OF CAFC REQUEST  
N = NO ADDITIONAL INVOCATION  
DBCTL EXIT PROGRAM: TO BE CALLED BEFORE AND AFTER EACH

PROGRAM NAME ==> (EXIT MAY ALTER DBDNAME)

After entering the item number for 'EXITS' from the Customization Option Menu, the CAFC EXIT OPTIONS panel is displayed. Most installations will have no need for an ALLOCATION/FREE/OPEN/CLOSE USER EXIT Program. However, if your installation needs to do some special processing for any data sets, CAFC provides exit points at pre-allocation, post-allocation, pre-free, post-free, pre-open, post-open, pre-close, and post-close. Review the Chapter entitled CAFC FEATURES AND COIDERATIONS, in particular the Section entitled ON-LINE USER EXITS.

**PROGRAM NAME**

If a program name is specified in this option, that program will be linked to Globally; i.e. at each of the above mentioned exit points for all file requests. At each exit point, except the POST-FREE exit point, the user exit program can control whether the request is to continue.

Default value ==> Blank, no global user exit program active.

**INVOKE EXIT AT COMPLETION**

Setting this option to 'Y' will cause the User Exit Program to be linked to for four additional situations:

1. At the completion of each request to a single CAFC DDName or DLI entry.
2. At the completion of each request to a single CAFC APPLICATION entry.
3. At the completion of each request to a CAFC APPLICATION entry within a CAFC GROUP definition.
4. At the completion of each request to a CAFC GROUP entry.

Default value ==> N

**DBCTL EXIT PROGRAM PROGRAM NAME**

If a program name is specified in this option, that program will be linked to Globally; i.e. before and after each DBCTL request executed.

**SECURITY OPTIONS**

Pictured below is the SECURITY panel for updating the CAFC Security Options

```

+-----+-----+
|----- EDIT TABLE = CUSTOMIZATION OPTIONS -----CAFC PANEL#401|
|COMMAND INPUT ==>                                     SCROLL ==> CSR|
|
|----- SECURITY OPTIONS -----|
|SECURITY PRODUCT          ==> B      N = NO SECURITY          |
|                               B = BASIC SECURITY             |
|                               R = RACF SECURITY              |
|                               A = ACF SECURITY               |
|                               T = TOP SECRET SECURITY        |
|                               X = OTHER EXTERNAL SECURITY    |
|USER SIGNON              ==> I      Y = SIGNON REQUIRED        |
|                               N = SIGNON NOT REQUIRED         |
|                               I = SIGNON SCREEN INHIBITED;   |
|                               TO MASTER IS BASIC CAFC SECURITY|
|
|PFKS: 1=HLP 2=2ND-SES 3=END 4=RET 7=BKWD 8=FWRD 9=ALT-SES 10=PRV-SEC 11=NXT-SEC|
+-----+-----+

```

After entering the item number for 'SECURITY' from the Customization Option Menu, the CAFC SECURITY OPTIONS panel is displayed. You may use this panel to update the following options:

1. - SECURITY PRODUCT
2. - USER SIGNON

The SECURITY PRODUCT may be one of five values: N for no security, 'B' for basic CAFC Security, 'R' for external security using IBM's RACF, 'A' for external security using CA's ACF2, 'T' for external security using CA's Top Secret, or 'X' for OTHER user specified.

N - NO SECURITY

Users are not required to enter userid and password on the sign-on screen prior to going to the CAFC Primary Option Menu. Any user can browse, edit, or use any entry in any CAFC Table File (except the Userid Table which requires a userid signed-on with Master Password authorization).

**SECURITY OPTIONS - CONTINUED****B - BASIC CAFC SECURITY**

Users are required to enter userid and password on the sign-on screen prior to going to the CAFC Primary Option Menu. CAFC Security Codes are enforced on each entry. (Password Maintenance Panel is accessible). BASIC CAFC security is the default security type preset on the distribution tape.

Default SECURITY PRODUCT ==> B

**R - RACF SECURITY PRODUCT**

Access to various CAFC operations will be allowed or denied through the standard RACF Security facilities. Terminal sign-on will be handled by the standard CICS CESN transaction. CAFC resource names, described below, should be defined to RACF using the standard RACF security administrator's interface. See the section on CAFC RACF security for more information.

**A - ACF2 SECURITY PRODUCT**

Access to various CAFC operations will be allowed or denied through the standard ACF2 security facilities. Terminal sign-on will be accomplished with the standard ACF2 sign-on transaction. Resource names described below will be defined to ACF2 using standard ACF2 administrator functions and interfaces. See the following section on ACF2 security for more information.

**T - TOP SECRET SECURITY PRODUCT**

Access to various CAFC operations will be allowed or denied through the standard RACF Security facilities. Terminal sign-on will be handled by the standard CICS CESN transaction. CAFC resource names, described below, should be defined to RACF using the standard RACF security administrator's interface. See the section on CAFC RACF security for more information.

**X - OTHER EXTERNAL SECURITY**

This option assumes the existence of a user written external security program. Users may or may not be required to enter USERID and PASSWORD on CAFC Sign-on screen prior to going to the Primary Option Menu depending upon the value specified in the External Security Signon Req'd field

**SECURITY OPTIONS - CONTINUED**

All attempts to browse, edit, or use any entry in any CAFC Table File will be authorized by an installation provided program except the Userid Table which requires a userid signed-on with MASTER Password Authorization. Users attempting to update the CAFC Customization Screens are validated against a table in your external security program. See the section on User written external security for more information.

**USER SIGNON**

The User Signon field is used to specify whether sign-on is to be required or bypassed. It is also used to specify that sign-on is inhibited and the initial CAFC sign-on screen is not to be displayed. The INHIBITED option will set the CAFC security level to MASTER.

Default USER SIGNON ==> N, none required

If the SECURITY PRODUCT is set to 'N' and if the USER SIGNON is equal to 'I', then CAFC will not maintain the CREATED BY and UPDATED BY fields in the DDNAME and DBD DDNAME entries. These fields will not document who (userid or jobname) requested the last change.

When the Security Flag is set to 'R' or A, CAFC forces the SIGNON REQ'D Flag to an 'I' to inhibit the CAFC Sign-on Panel. Double-check your updates. As soon as you hit the ENTER key, the parameters are updated. When you exit the customization screen, CAFC will activate your updated security options.

**SETTING UP RACF FOR USE BY CAFC**

CAFC utilizes standard CICS external security, MVS RACROUTEs and, the MVS/SAF interface to accomplish security in an RACF environment.

**VERIFY EXTERNAL SECURITY IS ACTIVE**

External security must be active in the CICS region for proper operation. This can be verified by checking for SEC=YES in your CICS system initialization table (SIT). The userid that the user signs-on to CICS with will be utilized to verify CAFC requests.

**VERIFY CAFC AUTHORIZATION IS INSTALLED**

RACF requires APF authorization. Insure that CAFC's APF authorization facilities have been installed.

**SECURITY OPTIONS - CONTINUED****SETTING UP RACF SPECIFIC PARAMETERS**

CAFC uses the RACF class name of \$CAFC. Before CAFC will function with RACF (or TOPSECRET), the RACF Class Descriptor, the RACF Router Table, and RACF profiles must be updated as follows.

**RACF CLASS DESCRIPTOR UPDATE**

The RACF Class Descriptor Table must be updated for CAFC/RACF external security to operate correctly. The following RACF table entry is required for CAFC's RACF security interface.

\$CAFC	ICHERCDE CLASS=\$CAFC	X
	DFTRETC=4,	X
	DFTUACC=NONE,	X
	FIRST=ANY,	X
	GENLIST=DISALLOWED,	X
	ID=XXX, <==== USER SPECIFIC	X
	KEYQUAL=0,	X
	MAXLNTH=26,	X
	OPER=YES,	X
	OTHER=ANY,	X
	POSIT=XX, <==== USER SPECIFIC	X
	PROFDEF=YES,	X
	RACLIST=ALLOWED,	X
	RACLREQ=YES,	X
	RVRSMAC=NO,	X
	SLBLREQ=NO	

**RACF ROUTER TABLE UPDATE**

The RACF Router table must be updated for CAFC/RACF external security to operate correctly. The following RACF table entry is required for CAFC's RACF security interface.

\$CAFC	ICHRFRTB	CLASS=\$CAFC,	X
		ACTION=RACF	

**SECURITY OPTIONS - CONTINUED****ACTIVATING THE \$CAFC CLASS**

After the above entries have been added to your RACF tables and the MVS system has been IPLed, the \$CAFC class must still be activated by your RACF administrator.

1. Use the following TSO commands to perform the activation.

```
SETROPTS CLASSACT($CAFC)
SETROPTS RACLIST($CAFC)
SETROPTS GENERIC($CAFC)
```

2. Add your user profiles to the RACF class, \$CAFC.

NOTE: Any profiles that existed before the \$CAFC class was made generic by the "SETROPTS GENERIC" command will not inherit generic capabilities even though the profiles contain an '\*'.

**CREATING RACF PROFILES - MASTER, USER, OPER**

Access to CAFC resources is divided into 3 levels: MASTER, USER, and OPER. MASTER access is intended to be reserved to System Programming level personnel, USER access is intended to be for Application Programming personnel, and OPER access is intended to be used by operations personnel who issue CAFC requests. Separate CAFC systems running in separate CICS regions can be uniquely identified by their CICS APPLID and thus protected individually.

CAFC honors RACF generic profile rules so more general profiles can be created at your installation. CAFC creates resources names that a user's authority is checked against in the following manner.

**RACF MASTER PROFILE**

For MASTER functions, the resource is created by suffixing the MASTER. sequence with the VTAM APPLID of the CICS system where CAFC is executing. An example of this would be if CAFC was executing in a CICS region whose APPLID was TESTCICS, the resource created would be MASTER.TESTCICS. In this example the user can: (1) browse and update CAFC Table File records, (2) issue CAFC requests (open, close, allocate etc.) against CAFC controlled items and (3) browse and alter CAFC Customization panels.



**SECURITY OPTIONS - CONTINUED****RACF USER PROFILE**

For USER functions, the resource is created by suffixing the USER. sequence with the CICS APPLID, CAFC resource type, and the resource name. Generically this would look like USER.applid.cafctype.name. USER is the fixed prefix. APPLID is replaced by the executing region's CICS VTAM APPLID. CAFCTYPE is replaced by one of the values found in the table below. NAME is replaced by the CAFC resource name. An example of this would be executing in a CICS system whose APPLID is TESTCICS, and the resource is a DDNAME called MYFILE would create the a resource of USER.TESTCICS.DDN.MYFILE.

<u>CAFCTYPE</u>	<u>Description</u>
DDN	DDNAME records
DBD	Database Definition records
APL	Application DDNAME records
TXN	Application Transaction records
GRP	Group records
MSG	Message records
TAB	RDO records

**RACF OPER PROFILE**

OPER profiles are created in the same manner as USER profiles except the fixed prefix is OPER instead of USER. The OPER profile allows individuals to be designated as operation personnel. These persons issue CAFC requests against or BROWSE CAFC resources that they have been permitted CONTROL authority via the appropriate OPER profile. No other CAFC functions are allowed. The check for OPER authority is only perform after the check for MASTER authority and USER authority to a resource have failed.

RACF access is a hierarchical structure such that when a user has CONTROL access, he has implied UPDATE and READ access. When a user has UPDATE access, he has implied READ access. CAFC operations relate to RACF authority levels in the following manner:

<u>CAFC Operation</u>	<u>RACF Access</u>
Request	control
Edit	update
Browse	read

**SECURITY OPTIONS - CONTINUED****SETTING UP ACF2 FOR USE BY CAFC**

CAFC utilizes MVS RACROUTEs and the MVS/SAF interface to accomplish security in an ACF2 environment. Proper support of CAFC utilizing ACF2 as an external security manager requires at least CA/ACF2 Release 6.0.

**VERIFY CICS/ACF2 SECURITY IS ACTIVE**

ACF2 external security must be active in the CICS region for proper operation. The userid that the user sign-ons to ACF2 with will be utilized to verify CAFC actions.

**VERIFY CAFC AUTHORIZATION IS INSTALLED**

ACF2 requires APF authorization. Insure that CAFC's APF authorization facilities have been installed.

**ACF2 CLASMAP STATEMENTS**

CAFC issues RACROUTE macros to the class of \$CAFC. ACF2 requires that the class be defined and mapped to an ACF2 type by way of the CLASMAP statement. The following represents the CLASMAP statement necessary to support CAFC's use of ACF2 as the external security manager.

```
CLASMAP CAFC      RESOURCE($CAFC)
                  RSRCTYPE(NTC)          <=== user can select
                  MUSID(***** )
                  ENTITYLN(26)
```

**ACF2 SAFDEF STATEMENT**

ACF2 requires a SAFDEF statement that authorizes CAFC to issue RACROUTE or SAF calls. The following represents the SAFDEF GSO statement necessary to support CAFC's use of ACF2 as the external security manager.

```
SAFDEF ATHCAFC    ID(CAFCDEF)
                  FUNCRET(4)
                  FUNCRSN(0)
                  JOBNAME(***** )
                  MODE(GLOBAL)
                  NOAPFCHK
                  PROGRAM(***** )
                  RACROUTE=(REQUEST=AUTH,
                  CLASS=$CAFC,USERID=-,ENTITY=-)
                  RB(***** )
                  RETCODE(4)
                  USERID(***** )
```



**SECURITY OPTIONS - CONTINUED****CREATING ACF2 RULES**

You must create ACF2 resource rules that will be utilized to protect CAFC resources. Access to CAFC resources is divided into 3 levels: MASTER, USER, and OPER. MASTER access is intended to be reserved to System Programming level personnel, USER access is intended to be for Application Programming personnel, and OPER access is intended to be used by operations personnel who issue CAFC request. Separate CAFC systems running in separate regions can be uniquely identified by their CICS APPLID and thus protected individually.

CAFC honors ACF2 generic rules so more general rules can be created at your installation. CAFC creates resources names that a user's authority is checked against in the following manner.

**MASTER FUNCTIONS**

For MASTER functions, the resource is created by suffixing the MASTER. sequence with the VTAM APPLID of the CICS system where CAFC is executing. An example of this would be if CAFC was executing in a CICS region whose APPLID was TESTCICS, the resource created would be MASTER.TESTCICS. In this example the user can: (1) browse and update CAFC Table File records, (2) issue CAFC requests (open, close, allocate etc.) against CAFC controlled items and (3) browse and alter CAFC Customization panels.

**USER FUNCTIONS**

For USER functions, the resource is created by suffixing the USER sequence with the CICS APPLID, CAFC resource type, and the resource name. Generically this would look like USER.applid.cafctype.name. USER is the fixed prefix. APPLID is replaced by the executing region's CICS VTAM APPLID. CAFCTYPE is replaced by one of the values found in the table below. NAME is replaced by the CAFC resource name. An example of this would be executing in a CICS system whose APPLID is TESTCICS, and the resource is a DDNAME called MYFILE would create the a resource of USER.TESTCICS.DDN.MYFILE.

<u>CAFCTYPE</u>	<u>Description</u>
DDN	DDNAME records
DBD	Database Definition records
APL	Application DDNAME records
TXN	Application Transaction records
GRP	Group records
MSG	Message records

**SECURITY OPTIONS - CONTINUED****OPER FUNCTIONS**

OPER Functions are created in the same manner as USER profiles except the fixed prefix is OPER instead of USER. The OPER profile allows individuals to be designated as operation personnel. These persons can issue CAFC request against or BROWSE resources that they have been permitted DELETE, UPDATE, ADD, READ authorities via the appropriate OPER profile. No other CAFC functions are allowed. The check for OPER authority is performed only after the check for MASTER authority and USER authority to a resource has failed.

CAFC operations relate to ACF2 access levels in the following manner:

<u>CAFC Operation</u>	<u>ACF Access Level</u>
Request	delete
Edit	update
Browse	read

The following sample resource rule is designed to create a MASTER.\* rule. The result of this rule should be: (1) USER1 can complete any CAFC master control function while (2) all other users are denied access in any CICS region where CAFC is installed and ACF2 is the active security mechanism.

```
$KEY(MASTER) TYPE(NTC)
-   UID(USER1)
SERVICE(READ ADD UPDATE DELETE)
ALLOW
```

**EXAMPLE ACF2 OR RACF SECURITY RULES/PROFILES**

Suppose we have a CICS region running with an APPLID of A and a second region running with an APPLID of B. The user has defined the following profiles to the RACF class \$CAFC and rules to ACF2 resource type NTC:

<u>USERID</u>	<u>RACF ACCESS</u>	<u>ACF2 SERVICE</u>	<u>RESOURCE/PROFILE</u>
M1	CONTROL	DELETE,UPDATE,ADD,READ	MASTER.*
M2	CONTROL	DELETE,UPDATE,ADD,READ	MASTER.A
M3	CONTROL	DELETE,UPDATE,ADD,READ	MASTER.B
M4	UPDATE	UPDATE,ADD,READ	MASTER.A

**SECURITY OPTIONS - CONTINUED**

<u>USERID</u>	<u>RACF ACCESS</u>	<u>ACF2 SERVICE</u>	<u>RESOURCE/PROFILE</u>
U1	CONTROL	DELETE,UPDATE,ADD,READ	USER.A.DDN.FILE1
U1	READ	READ	USER.A.DDN.FILE2
U1	CONTROL	DELETE,UPDATE,ADD,READ	USER.A.DDN.FILE3
U1	UPDATE	UPDATE,ADD,READ	USER.A.DBD.DATA1
U1	UPDATE	UPDATE,ADD,READ	USER.A.APL.UFILES
U1	CONTROL	DELETE,UPDATE,ADD,READ	USER.A.MSG.UFILES
U2	UPDATE	UPDATE,ADD,READ	USER.A.DDN.F*
U3	CONTROL	DELETE,UPDATE,ADD,READ	USER.B.DDN.*
U4	CONTROL	DELETE,UPDATE,ADD,READ	USER.A.MSG
U5	CONTROL	DELETE,UPDATE,ADD,READ	OPER.A.*

Notice that USER M1 has a generic profile. M1 has full MASTER authority to perform any CAFC function on the two CICS regions A and B. USER M4 has no authority at all because MASTER authority requires CONTROL access.

USER U1 can browse, edit and issue requests for FILE1 on the CICS-A region. U1 can do nothing in the CAFC running on the CICS-B region. USER U3 can do nothing on the CICS-A region, but can browse, edit and issue requests against any DDN controlled by CAFC on the CICS-B region.

USER U1 can browse and edit the database DATA1 on the CICS-A region, but he cannot open or close it. USER U2 can browse and edit DDN record FILE1 or FILE2 and any other DDN record which has a name beginning with the letter F on CICS-A region.

In order to update a CAFC application and its components, the user must have both: (1) UPDATE access to the application name and (2) UPDATE access to each DDN, DBD or TXN component of that application. In the same fashion, to successfully update a CAFC group, the user must have (1) UPDATE access to the group name and (2) UPDATE access to every application name belonging to the group. Updating a DBD requires UPDATE access to each component DDN record.

USER U1 can edit the CAFC application UFILES and can include FILE1, FILE3 or DATA1 as a component of UFILES. He cannot include DDN FILE2 as part of CAFC application UFILES since he does not have UPDATE access to FILE2.

USER U4 can send immediate messages using option 6 on the CAFC Message Facility from the CAFC Main Menu. However, U4 cannot update any defined message associated with CAFC applications or groups. USER U1 may browse and update messages associated with CAFC application UFILES.

**SECURITY OPTIONS - CONTINUED**

USER U5 is an operator. His profile is a generic profile or rule that allows him to issue CAFC requests in both regions and browse files in both regions. He can not modify any CAFC resource definitions through the edit function. U5 does not have access to the Customization Options.

CONTROL access in ACF2 propagates downward so that when a user has CONTROL access over a CAFC group, he is considered by CAFC to have CONTROL access over the component CAFC applications whenever a request is issued for that group. In the same fashion CONTROL access over a CAFC application extends to its components when requests are issued for the application. Whenever a user issues a request against a CAFC group, the group name is checked with ACF2 for CONTROL access, and the request proceeds with no further ACF2 checking for the component applications.

Some operations on CAFC are reserved for MASTER access:

1. browsing and editing customization options,
2. browsing and editing CAFC USER IDs,
3. performing SYNCH requests,
4. performing RPL/ORPL requests,
5. performing ID/BID requests for DCT entries,
6. performing install and delete request for FCT entries,
7. accessing utilities services menu
8. batch or online extended tablefile maintenance requests

**USER WRITTEN EXTERNAL SECURITY**

All user written External Security Programs must be included in the CICS region's PPT. The program must be able to process a parmlist passed in a CICS Command-Level COMMAREA. Sample External Security Programs, to be modified by the users' system programming staff, are included on the Installation Tape in the PDS member INSTLIB.

NOTE: NETEC Intl, Inc. accepts no responsibility for the correctness or suitability of the logic or the instructions provided in any sample exit program on the CAFC Distribution Tape. Sample exit programs are provided solely as a basis for your in-house development of customized interface programs. When you update one of the Netec supplied external security exit programs, your logic will also control access to the CAFC Customization Screens. The security exit reformats all CAFC requests for your external security package via a parameter list. You may wish to fine-tune the built-in access controls.

**SECURITY OPTIONS - CONTINUED**

When you update one of the NETEC supplied external security exit programs, your logic will also control access to the CAFC Customization Screens. The security exit reformats all CAFC requests for your external security package via a parameter list. You may wish to fine tune the built-in access controls. If you elect to use your own external security program, it must be able to process a parmlist passed in a CICS Command Level COMMAREA. There are seven steps to activate external security.

1. Review the source code for the sample security exit programs below. Select the sample program and the APF authorization type that most closely supports your security requirements. Review the source for the subroutine @MSTR and its two tables @UIDTBL and @OIDTBL. The subroutine @ISEC invokes your external security system.

The following example security exit programs are found in the INSTLIB PDS.

Security <u>System</u>	Module <u>Name</u>	Assembly JCL <u>Member</u>	Authorization <u>Method</u>
RACF	AFCP2RCF	ASMP2RCF	Proprietary CAFC APF
ACF2	AFCP2ACF	ASMP2ACF	N/A
Top Secret	AFCP2TSS	ASMP2TSS	N/A

All of the above sample security interface programs must be user modified to function properly.

2. Each sample external security exit program contains @MSTR and the two tables, @UIDTBL and @OIDTBL. Update one or both of these tables with the userids and operids of the administrators who will maintain your region unique Customization Options. At least one operid or userid must be defined before activating external security. We recommend you include all of the userids that are allowed to access the CAFC Customization Options. Operids are optional. These tables control access to all of the CAFC Customization Options.

With ACF2 user written external security programs, insure you update the Userid Table, @UIDTBL. Include all of the userids that are allowed to access the CAFC Customization Options. ACF2 does not support operids.



**SECURITY OPTIONS - CONTINUED**

With user written Top Secret external security programs, insure you update the Userid Table, @UIDTBL. Include all of the userids that are allowed to access the CAFC Customization Options. Operids are optional.

3. Include the selected external security exit program name in each of your regions' PPT.
4. Review and update your CICS regions' Sign-On Tables (DFHSNT) so that they conform to your external security package requirements.
5. Specify "EXTSEC=YES," in the CICS SIT or in the region's CICS override parameter list. This allows CICS to establish communications with your external security package.
6. Insure that CAFC's APF authorization facility, DFHDEB70, has been installed and is operating properly.
7. Logon to CAFC with the 'MASTER' userid and the 'PASSWORD' password. From the Primary Option Menu selected '5' for the CAFC Customization Options. From the Customization Option menu, select '7' for the SECURITY options. Change the SECURITY FLAG field to an 'X' for EXTERNAL. Now update the APF AUTHORIZATION fields for the authorization type you have installed. Carefully, add the name of your user modified external security exit program to the PROGRAM NAME field. Double check your updates. As soon as you hit the enter key, the parameters are updated. When you exit the customization screen, CAFC will activate your updated external security options.

**AUDIT OPTIONS**

Pictured below is the AUDIT panel for updating Audit Trail options.

----- AUDIT OPTIONS -----

CREATE AUDIT LOGS	==> Y	(Y/N)
CAFC AUTHORIZATION SVC	==> 252	000 IF SVC NOT PROVIDED 128-255 CAFC SVC NUMBER
COMPLETED REQUESTS	==> D	N = DO NOT LOG REQUESTS D = LOG DIRECT TO DDNAME T = LOG TO TRANSIENT DATA DESTID L = LOG TO MVS SYSTEM LOGGER
DDNAME	==> CAFCLCOR	
FAILED REQUESTS	==> D	N = DO NOT LOG REQUESTS D = LOG DIRECT TO DDNAME T = LOG TO TRANSIENT DATA DESTID L = LOG TO MVS SYSTEM LOGGER
DDNAME	==> CAFCLERR	
CUSTOMIZATION OPTIONS	==> D	N = DO NOT LOG REQUESTS D = LOG DIRECT TO DDNAME T = LOG TO TRANSIENT DATA DESTID L = LOG TO MVS SYSTEM LOGGER
DDNAME	==> CAFCLCUS	
EDIT CAFC RECORDS	==> T	N = DO NOT LOG REQUESTS D = LOG DIRECT TO DDNAME T = LOG TO TRANSIENT DATA DESTID L = LOG TO MVS SYSTEM LOGGER
DESTID	==> LEDT	
SECURITY VIOLATIONS	==> T	N = DO NOT LOG REQUESTS D = LOG DIRECT TO DDNAME T = LOG TO TRANSIENT DATA DESTID L = LOG TO MVS SYSTEM LOGGER
DESTID	==> LSEC	
STATUS REQUESTS	==> T	N = DO NOT LOG REQUESTS D = LOG DIRECT TO DDNAME T = LOG TO TRANSIENT DATA DESTID L = LOG TO MVS SYSTEM LOGGER
DESTID	==> LCOR	

After entering the item number for 'AUDIT' from the Customization Option Menu, the CAFC AUDIT OPTIONS panel is displayed. You may use this panel

## CAFC FEATURES AND CONSIDERATIONS

to update what CAFC actions are logged and to which CICS Transient Data Queue ,sysout dataset,or MVS system logger the actions are logged.

**Create Audit Logs** activates logging. If 'N' is selected no audit logging will be performed and none of the other options will display. Selecting 'Y' activates audit logging and displays remaining options.

**CAFC Authorization SVC** is required for batch programs using the system logger files. If this field is left at '000' writes to system logger files by the batch interface jobs will be ignored. Authorization is not required for CICS programs to access the system logger files. This field will only display if Audit Log Destination is 'L'.

**Audit Log Destination** is used to specify whether the audit log is to be written to a transient data queue , a non-cics sysout dataset referenced by a ddname or the a MVS System logger dataset.

- N - No Audit logging.
- D - Log directly to the ddname
- T - Log to transient data destid
- L - Log to MVS system logger

**Audit Option Information** is specified by the Audit Flag and an associated Audit Transient Data Destid , Ddname, or MVS Logger dataset name. The Audit Flag can have one of three values:

- BLANK - No audit trail logging.
- Y - Log this type of request to the Destid or DDname specified for Destid or Ddname or MVS system logger
- N - Do not log this type of request.

Default Audit Flag ==> Y (For Completed and Failed Requests)  
Default Audit Flag ==> N (For Customization, Edit and Security requests)

The Audit Trail data set(s) must be placed in the CICS start-up JCL stream. If an Audit Trail data set does not exist in the JCL, or is not specified in this Panel, all information will be lost. The default data set name is CAFCCSMT. The default transient data destid is CSMT. You must place at least one Audit Trail DD statement in the start-up JCL similar to the following.

```
//CAFCCSMT DD SYSOUT=*,DCB=BUFNO=1
```

### AUDIT OPTIONS - CONTINUED

## CAFC FEATURES AND CONSIDERATIONS

If you decide to use the system logger for the audit destination from CICS you will need to define a JOURNALMODEL for each one. All 6 of the CAFC Audit logs can go to the same system logger journal or they can each go to different system logger journals. Below is an example on how to define a JOURNALMODEL to the CSD using the CICS Resource Transaction CEDA.

```
CEDA DEF GR(CSDGROUP) JOURNALMODEL(LOGRLCOR)
    JOURNALMODEL      : LOGRLCOR
    GROUP              : CSDGROUP
    DESCRIPTION        :
    JOURNALNAME        : LOGRLCOR
    STREAMNAME         : LOGGER.TEST.PROGRAM
```

LOGRLCOR is the journal name you specified in the CAFC Customization Option under Audit Logs. Logger.Test.Program is the dsname of the MVS system logger file. The name here can be a maximum of 26 bytes. This logger dataset can be defined using CAFC installation member DEFLOGR. New system logger files can be defined by using this sample job. Just use a new dsname.

CAFC provides a facility for viewing the system log via TSO. Review the section titled CAFC's TSO ISPF Log Viewer for information on installation and usages of this facility.

**WTO OPTIONS**

Pictured below are the parameters for updating WTO options.

WTO MESSAGE PREFIX ==> CAFC

WTO DESTINATION ==> C C = CONSOLE  
S = SEQUENTIAL FILE

ROUTE CODE ==> 008 001 - 128

DDNAME ==> FILE TO RECEIVE WTO MESSAGES

These options enable the user to direct CAFC normal and trace related WTOs to a particular MVS console (via route codes) or to a sequential file (via a ddname). If 'C' for CONSOLE is selected, then the ROUTE CODE entry parameter is automatically displayed. If 'S' for SEQUENTIAL FILE is selected, then the DDNAME entry parameter is displayed instead of ROUTE CODE.

**WTO MESSAGE PREFIX**

All CAFC message, WTOs will be prefixed with the literal specified in this field. Trace WTOs are not prefixed by this value.

Default value for message prefix ==> CAFC

**WTO DESTINATION**

The destination value specifies where CAFC Message WTOs should be sent. If an 'S' for sequential file is specified but no ddname is specified or allocated, the WTO messages will be written to the console.

Default value for destination ==> C

Default value for ddname ==> CAFCWTOS

Default value for route code ==> 008

The sequential file can be either a sysout or a dataset. If you specify a dataset, the allocation requirements are:

RECFM - F  
LRECL - 132  
BLKSIZE - 132

**AFCPSIPY EARLY ALLOCATION OPTIONS**

Pictured below are the parameters for updating CAFC's AFCPSIPY Early Allocation option.

AFCPSIPY WARM START		EARLY ALLOCATION OF DCT AND JCT ENTRIES
ALLOCATION FAILURE	==> B	R = ISSUE WTOR AND AWAIT REPLY
		B = BYPASS WTOR AND CONTINUE WARM START

**ALLOCATION FAILURE OPTION**

If the allocation of a data set fails during AFCPSIPY processing, at system initialization time, you may control whether or not the MVS operator should receive the WTOR message, "AFCPSIP3 - Reply Go or Cancel". If prompted, the operator's response will determine whether CICS initialization continues or is terminated. If you elect to bypass prompting, CICS initialization continues despite any allocation failures. CAFC provides the following two values for this option:

- R - Require operator to reply to message.
  - B - Bypass message processing and continue CICS initialization.
- Default value is ==> R

NOTE: Do not bypass message processing in your production regions.

**REQUEST OPTIONS**

Pictured below is the REQUEST OPTIONS panel for updating CAFC options related to CAFC request processing. These options customize the way CAFC processes Opens/Closes, Allocations/Frees and Enabling/Disabling.

```

----- EDIT TABLE = CUSTOMIZATION OPTIONS                -----CAFC PANEL# 401
COMMAND INPUT ==>

      ---- REQUEST OPTIONS ----
      CLOSE OPTIONS:
NUMBER OF FCT SCANS    ==> 10          WAITING FOR CICS CLOSE TO COMPLETE
FCT SCAN INTERVAL     ==> 000005      TIME INTERVAL  HHMMSS
CLOSE DELAY TIME       ==> 01 01 - 99  DELAY TIME IN SECONDS AFTER A
                                      CLOSE REQUEST
DISABLE-CLOSE DELAY    ==> 01 01 - 99  DELAY TIME IN SECONDS AFTER A
DISABLE-CLOSE REQUEST
FORCE CLOSE OPTION     ==> N          (Y/N) ALLOW FORCE CLOSE REQUEST

      OPEN OPTIONS:
VSAM ALLOCATION         ==> Y          (Y/N) AUTOMATICALLY ALLOCATE VSAM FILES
EXTENDED TIOT          ==> Y          (Y/N) USE EXTENDED TIOT FOR ALLOCATIONS

      MESSAGE OPTIONS:
WARNING MESSAGES       ==> Y          (Y/N) DISPLAY WARNING MESSAGES
SHUTDOWN MESSAGES      ==> B          Y = DISPLAY MSGS AT TERMINAL
                                      M = DISPLAY MSGS AT MVS CONSOLE
                                      B = DISPLAY MSGS AT TERMINAL & MVS CONSOLE
                                      N = DO NOT DISPLAY MESSAGES

      AUTOMATIC ENABLE/DISABLE:
ENABLE ON OPEN         ==> Y          (Y/N) ENABLE FCT/DCT ON OPEN REQUEST
ENABLE ON ALLOCATE     ==> Y          (Y/N) ENABLE FCT/DCT ON ALLOCATE REQUEST
DISABLE ON CLOSE       ==> Y          (Y/N) DISABLE FCT/DCT ON CLOSE REQUEST
DISABLE ON FREE        ==> Y          (Y/N) DISABLE FCT/DCT ON FREE REQUEST
ALWAYS ENABLE TRANS    ==> Y          (Y/N) ALWAYS ENABLE TRANS ON OE REQUEST

      STATUS REQUEST:
SET RETURN CODE 137    ==> Y          (Y/N) SET RC=137 IF DSNAME IS ALLOCATED TO
                                      ANOTHER TASK

```

**CLOSE OPTIONS**

These parameters control the way delayed CLOSEs are handled within CAFC.

**NUMBER OF FCT SCANS**

When a CAFC request of 'DC' (Disable/Close) or 'C' (Close) is issued against any CAFC item containing FCT entries, the FCTs are first disabled then closed.

**REQUEST OPTIONS - CONTINUED**

Multiple scans of the affected FCTs are performed until all FCTs have completed the close operation. This is necessary because concurrent file activity will delay the close. The NUMBER OF FCT SCANS can be set to limit this process.

Default value ==> 3

**FCT SCAN INTERVAL**

This option works in conjunction with the Number of FCT Scans option. CAFC uses the value specified in the FCT Scan Interval field to determine how many seconds to wait before it performs another scan against the FCTs. The default value is 5 seconds.

Default value ==> 000005

**CLOSE DELAY TIME and DISABLE-CLOSE DELAY**

Under various CICS workload conditions, closes may not complete quickly. This parameter delays the return of the closed condition code to the invoking program.

Default value ==> 01

**FORCE CLOSE OPTION**

This option is provided to allow the ability to issue a force close request to an active FCT file.

Default value ==> N

**OPEN OPTIONS**

These parameters control the way VSAM file OPENS and allocations are handled within CAFC.

**VSAM ALLOCATION OPTION**

VSAM file allocation can be controlled by the VSAM Allocation Option flag. This flag can have one of two values:

- Y CAFC will automatically allocate VSAM files. CAFC will deallocate VSAM files dependent upon the setting of the CLOSE=FREE flag in the individual CAFC Table File DDname records.
- N CAFC will not automatically allocate or deallocate VSAM files. The CLOSE=FREE flag in the CAFC Table File DDname records is ignored.

Default value ==> Y



**REQUEST OPTIONS - CONTINUED****EXTENDED TIOT**

This option controls where CAFC allocations will be performed using the S99ACUCB parameter provided the allocation parameters. This option should be set to 'Y' for CICS TS1.1 and higher releases since they perform XTIO allocations. If this option is set to 'N' CAFC will only search the standard TIOT to determine if a file is allocated.

**MESSAGE OPTIONS**

These parameters control CAFC messages related to file OPENS and allocations.

**WARNING MESSAGE OPTION**

If this option is set to 'Y', CAFC will write all warning messages e.g. "ALREADY CLOSED, ALREADY OPEN, ETC", to the CICS log and to the JES log.

Default value ==> Y

**SHUTDOWN MESSAGE OPTION**

If this option is set to 'Y', CAFC will write all CAFC shutdown warning and informational messages to the terminal that issued the shutdown. If 'M' is selected the messages will go to the MVS console instead of the terminal issuing the shutdown. If 'B' is selected the messages will be written to both the terminal and the MVS console. If 'N' is selected no messages will be written.

Default value ==> Y

**REQUEST OPTIONS - CONTINUED****AUTOMATIC ENABLE/DISABLE**

## CAFC FEATURES AND CONSIDERATIONS

These flags control automatic enable/disable status changes when opens/closes and allocations/frees implicitly or explicitly occur. The flags also determine if transactions, belonging to an application list, should be automatically enabled when the application list is opened.

### **ENABLE WITH OPEN**

If this option is set to Y, CAFC will automatically enable an FCT or DCT whenever a CAFC open request is issued. For the automatic enable to occur, the ddname must also have the Automatic Enable/Disable flag set to 'Y'.

Default value ==> Y

### **ENABLE WITH ALLOCATE**

If this option is set to Y, CAFC will automatically enable an FCT or DCT whenever a CAFC allocate request is issued. For the automatic enable to occur, the ddname must also have the Automatic Enable/Disable flag set to 'Y'.

Default value ==> Y

### **DISABLE WITH CLOSE**

If this option is set to Y, CAFC will automatically disable an FCT or DCT whenever a CAFC close request is issued. For the automatic disable to occur, the ddname must also have the Automatic Enable/Disable flag set to 'Y'.

Default value ==> Y

### **DISABLE WITH FREE**

If this option is set to Y, CAFC will automatically disable an FCT or DCT whenever a CAFC free request is issued or whenever the FCT or DCT file is freed due to a close request and the FREE=CLOSE flag is Y. For the automatic disable to occur, the ddname must also have the Automatic Enable/disable flag set to 'Y'.

Default value ==> Y

### **OE ALWAYS ENABLE TRAN**

If this option is set to Y, CAFC will always enable the transactions associated with an 'OE' (OPEN/ENABLE) request even if the files associated with that application request received errors.

Default value ==> Y

## **REQUEST OPTIONS - CONTINUED**

**SET RETURN CODE 137 FOR STATUS REQUEST**

If this option is set to 'Y' CAFC will set the return code to 137 on completion of a status request if the dsname for the ddname is still allocated to another task.

**EDIT OPTIONS**

Pictured below is the EDIT OPTIONS panel for updating CAFC options related to CAFC edit processing.

**SORT OPTIONS:**

APPLICATIONS ITEMS	==> Y	I = SORT BY ITEM NAME ONLY Y = SORT BY ITEM TYPE / ITEM NAME N = DO NOT SORT ITEMS
DLI COMPONENTS	==> Y	Y = SORT SORT DLI COMPONENTS BY NAME N = DO NOT SORT DLI COMPONENTS
GROUP ITEMS	==> Y	Y = SORT GROUP ITEMS BY APPLICATION NAME N = DO NOT SORT GROUP ITEMS

**MISCELLANEOUS OPTIONS:**

ALTERNATE DSNAME	==> Y	Y = PRIMARY AND SECONDARY DSNAME ALLOWED N = SINGLE DSNAME ONLY ALLOWED
AUTOMATIC SAVE	==> Y	Y = AUTOMATIC SAVE WITH PFK3 ON EDIT PANELS N = EDIT UPDATES DISCARDED WITH PFK3
DELETE RECORDS	==> G	S = SPECIFIC ITEM DELETES ALLOWED G = GENERIC DELETES ALLOWED N = NO DELETE OPERATIONS ALLOWED
RENAME RECORDS	==> Y	Y = RENAME OPERATIONS ARE ALLOWED N = NO RENAME OPERATIONS ARE ALLOWED

After entering the item number for 'EDIT' from the Customization Option Menu, the EDIT OPTIONS parameters are displayed. Use these parameters to update the following options:

- SORT APPLICATION DDNS
- SORT APPLICATION TXNS
- SORT DLI COMPONENTS
- SORT APPLS IN GROUP
- AUTOMATIC SAVE

**SORT APPLICATION DDNS**

If this option is set to Y, CAFC will automatically sort the list of DDNames for an application the edit panel.

Default value ==> Y

**SORT APPLICATION TXNS**

If this option is set to Y, CAFC will automatically sort the list of transactions for an application on the edit panel.

Default value ==> Y

**EDIT OPTIONS - CONTINUED**

**SORT DLI COMPONENTS**

If this option is set to Y, CAFC will automatically sort the list of DDNames for a DLI definition on the edit panel.

Default value ==> Y

**SORT APPLS IN GROUP**

If this option is set to Y, CAFC will automatically sort the list of applications for a group definition on the edit panel.

Default value ==> Y

**ALTERNATIVE DSNAME OPTION**

If this option is set to Y, CAFC will activate the Alternative Dsname facilities. This facility allows two dsnames to be entered for a single ddname. The facility offers commands to switch between a primary and secondary dsname.

Default value ==> N

**AUTOMATIC SAVE**

If this option is set to Y, CAFC will automatically precode the SAVE command on the command line of the edit panels.

Default value ==> Y

**DELETE OPTIONS**

This option controls deletion of CAFC records.

- N no deletes allowed.
- S allows deletion of specific(entry name) items.
- G allows mass deletion of CAFC records. This is accomplished by entering a wildcard '\*' character in the entry name. For example an entry name of ABC\*D will delete all records of a specific type if the entry name on the CAFC file matches the entered entry name pattern.

Default value ==> G

Note: Ddnames must be closed and deallocated for delete requests to complete successfully. Open or allocated ddnames can not be deleted.

**RENAME OPTION**

This option controls renaming of CAFC records.

- N no renames allowed.
- Y allows rename operations. Ddname must be closed and deallocated prior to issuing rename operation.

## CAFC FEATURES AND CONSIDERATIONS

### HSM OPTIONS

Pictured below is the HSM RECALL OPTIONS parameters for updating DFHSM support options.

```
HSM SUPPORT          ==> Y  (Y/N)  SUPPORT RECALLS FOR MIGRATED DSNAMES
HSM PROCEDURE        ==> DFHSM    PROCEDURE NAME OF DFHSM STARTED TASK
RECALL CYCLE INTERVAL ==> 000030   SECONDS TO CHECK FOR RECALL COMPLETION
RECALL WAIT LIMIT    ==> 000300   SECONDS TO ABANDON RECALL
                                   (DDNAME WILL NOT BE ALLOCATED)
```

```
MIGRATION IDENTIFER  ==> MIGRAT   VOL SER INDICATING MIGRATED DSNAMES
RECALL SUPPRESSION   ==> N  Y = SUPPRESS ALLOCATION OF MIGRATED DSNAMES
                                   N = RECALL MIGRATED DSNAMES
                                   W = WAIT FOR RECALL COMPLETION
```

```
AT PLTPI TIME
  IF DSN IS MIGRATED:          THEN WARM START ACTION WILL BE:
  -----
  WARM START ACTION    ==> R  S = SKIP REQUEST
                                   R = RECALL THE DSNNAME ONLY
                                   A = RECALL AND ALLOCATE THE DSNNAME
                                   F = OBEY THE AUTOMATIC-ALLOCATION FLAG
```

### **HSM SUPPORT**

CAFC's DFHSM support can be turned ON and OFF at will. If a 'Y' is specified, the feature is enabled. If 'N' is specified, CAFC will not RECALL DFHSM-migrated data sets before issuing SVC 99 to allocate the data set. If Y is specified, you must install CAFC's APF Authorization mechanism and update the SECURITY OPTIONS for APF Authorization.

Default value is ==> Y

### **DFHSM PROCEDURE NAME**

If CAFC detects that a data set has been migrated by DFHSM, a command is issued to RECALL the data set. In order to issue the command, the name of the DFHSM cataloged procedure is required.

Default value is ==> DFHSM

**HSM OPTIONS - CONTINUED****RECALL CYCLE INTERVAL**

After the RECALL request is issued, CAFC will wait for an interval of time, then check to see if the request has been satisfied. This parameter specifies in seconds, the amount of time CAFC will wait before again checking on the completion of the RECALL request.

Default value is ==> 000030

**RECALL WAIT TIME**

After the RECALL request is issued, CAFC will periodically check to see if the request has been satisfied. When CAFC issues a RECALL request, it: (1) waits for the amount of time specified for WAIT INTERVAL FOR RECALL COMPLETION and (2) then checks to see if the request has been satisfied. If the RECALL request completed successfully, then processing continues with normal allocation. If the RECALL request has not completed as yet, CAFC will continue to repeat the wait/check process for the period time specified in this parameter. If the RECALL has not completed after this number of seconds, the allocation request is treated as if it failed.

Default value is ==> 000300

**RECALL SUPPRESSION**

If 'Y' is selected for this option, CAFC will NOT attempt to allocate or recall the data set if it is migrated. If 'W' is selected for this option, CAFC will NOT return to the calling program until the recall is complete or the timeout value has been reached. The 'W' option will cause the issuing terminal to be locked until the recall completes. Similar requests from other terminals, that generate a recall, will begin processing and also wait. That is the terminals will, be locked out for other input, until the completion of their recalls.

If 'N' is selected for this option, CAFC will return to the calling program with a message indicating an HSM recall is in progress while the recall and request continue processing. A return code of 08 will be set. This allows other terminal activity to continue.

Default value is ==> N

**HSM OPTIONS - CONTINUED****MIGRATION IDENTIFIER**

The identifier HSM, DMS, etc. inserts into the volume serial in the catalog to identify data set as migrated.

Default value is ==> MIGRAT

**AT PLTPI TIME IF DSN IS MIGRATED?**

CAFC offers several options for handling data sets that are migrated when a CICS region is started. Some of these data sets may be critical to an application's ability to execute properly.

- S Skip the request. If a CAFC request to open or allocate a data set is issued by AFPCWARM or AFCPOVER and the data set is migrated, the request will be skipped.
- R Recall the dsname. If a CAFC request to open or allocate a data set is issued by AFPCWARM or AFCPOVER and the data set is migrated, the dsname will be recalled but neither opened or allocated.
- A Recall and allocate the dsname. If (1) a CAFC request to open or allocate a data set is issued by AFPCWARM or AFCPOVER and (2) the data set is migrated, then the dsname will be recalled, allocated and opened. This may cause region startup delays if the number of migrated data sets is substantial.
- F Obey the automatic allocation setting in the ddname record.



## CAFC FEATURES AND CONSIDERATIONS

### SUPPORT EXEC CICS

The information below, controls CAFC's expanded support for (1) user written program calls to the EXEC CICS interface and (2) CEMT set commands that change the status of DCT, DLI, PCT and FCT resources.

PROVIDE EXTENDED SUPPORT		FOR INTERNAL CICS FUNCTIONS:
-----		-----
DBCTL	==> Y	Y = SUPPORT CAFC REQUESTS TO DBCTL DATASETS N = IGNORE THESE REQUESTS
EXEC CICS SET FILE	==> Y	*Y = SUPPORT SET-FILE COMMANDS (OPEN, CLOSE, ENABLE, DISABLE) FROM CEMT AND PROGRAMS N = IGNORE THESE COMMANDS
RECORD LEVEL SHARING	==> Y	Y = SUPPORT CAFC REQUEST PROPAGATION AGAINST RLS VSAM FILES (ENABLE, OPEN, DISABLE, FREE) N = DO NOT SUPPORT REQUEST PROPAGATION FOR RLS FILES
IMPLICIT OPENS	==> Y	*Y = SUPPORT IMPLICIT OPENS FOR FIRST ACCESS (READ, WRITE, DELETE, UNLOCK, STARTBR) FROM CEMT AND PROGRAMS N = IGNORE IMPLICIT OPENS
INITIAL OPENS	==> Y	*Y = SUPPORT INITIAL OPENS FROM DFHFCU (CSFU) N = IGNORE INITIAL OPENS
EXEC CICS SET TDQUEUE	==> Y	*Y = SUPPORT SET-TDQUEUE COMMANDS FROM CEMT AND PROGRAMS N = IGNORE THESE COMMANDS
EXEC CICS SET TRAN	==> Y	*Y = SUPPORT SET-TRANSACTION COMMANDS FROM CEMT AND PROGRAMS N = IGNORE THESE COMMANDS
EXEC CICS SET ACCESS	==> Y	*Y = SUPPORT SET-FILE-ACCESS COMMANDS (READ, UPDATE, ADD, BROWSE, DELETE) FROM CEMT AND PROGRAMS N = IGNORE THESE COMMANDS
EXEC CICS PERFORM SHUT	=> Y	*Y = SHUTDOWN CAFC AUTOMATICALLY WHEN AN EXEC-CICS-PERFORM-SHUTDOWN IS DETECTED N = SHUTDOWN CAFC FROM PLTSD PGM AFCP9999

**EXEC CICS INTERFACE SUPPORT - CONTINUED**

- \* The activation of the above Extended Support facilities within a region with LPA=YES, require the removal of CICS programs DFHAIPxx and DFHEIPxx from the LPALIB to avoid a U601 ABEND at startup.

After entering the item symbol for "SUPPORT EXEC CICS" from the Customization Option Menu, the CICS SUPPORT OPTIONS menu is displayed. Activating DFHDLI extended support requires a prerequisite installation step, see Step 10. All four functions drive the dynamic installation of one or more intercept programs.

NETEC's intercept programs are generally compatible with other vendors' intercept programs. NETEC and other vendors have had to resort to these intercept programs because CICS's standard exits do not offer processing points for many types of CICS activities. These activities must be intercepted if you want CAFC to add transparent, additional functionality to non-CAFC commands that change the status of FCT resources, DLI databases, DCT extrapartition data queues and transactions. If all of the Extended Options are set to NO, the intercept programs will not be loaded for that region.

**PROVIDE EXTENDED SUPPORT FOR INTERNAL CICS FUNCTIONS**

CAFC offers a variety of automatic methods for intercepting status changes resulting from CEMT commands or EXEC CICS interface calls, implicit or explicit, to a CICS resource defined to CAFC. For example, take a CEMT command to open a file. Activating the following support types allows CAFC to update and maintain status synchronization in its Table File.

**EXEC CICS SET FILE - FCT EXTENDED SUPPORT**

This support should be activated if you use CEMT commands or the EXEC CICS interface to open/close and enable/disable FCT files. Without CAFC's FCT interface activated, automatic allocations/ deallocations cannot be performed unless the dsname for the file is physically in the FCT or JCL nor will the ddname open/close and enable/disable status stored in the CAFC Table File be kept in synch with the status in the FCT. If FCT support is deactivated, it will produce the same affect has the old AFCL,OFF transaction. Ensure that you have performed the DFHDEB70 installation procedure for APF Authorization as described in Installation STEP 2. This facility should not be deactivated except in very controlled instances.

**EXEC CICS INTERFACE SUPPORT - CONTINUED****IMPLICIT OPENS - FCT EXTENDED SUPPORT**

This support should be activated if you use the EXEC CICS interface to implicitly open FCT files on first access requests such as 'READ, WRITE, DELETE, UNLOCK, or STARTBR'. Without CAFC's Implicit Open interface activated, automatic allocations cannot be performed unless the dsname for the file is physically in the FCT or JCL nor will the ddname open/enable status stored in the CAFC Table File be kept in synch with the status in the FCT. Ensure that you have performed the DFHDEB70 installation procedure for APF Authorization as described in Installation STEP 2.

**INITIAL OPENS - FCT EXTENDED SUPPORT**

This support should be activated if you have FCT entries defined in CICS as OPENTIME=STARTUP. Without CAFC's Initial Open support activated, automatic allocations cannot be performed for the startup opens unless the dsname for the file is physically in the FCT or JCL nor will the ddname open/enable status stored in the CAFC Table File be kept in synch with the status in the FCT. Ensure that you have performed the DFHDEB70 installation procedure for APF Authorization as described in Installation STEP 2.

**DBCTL - DBCTL EXTENDED SUPPORT**

This support should be activated if you wish to have CAFC control the access to IMS/DBCTL databases.

**RESOURCE LEVEL SHARING - RLS EXTENDED SUPPORT**

This support should be activated if you wish to have CAFC control FCT entries defined to use Resource Level Sharing.

**EXEC CICS INTERFACE SUPPORT - CONTINUED****EXEC CICS SET TDQUEUE - DCT EXTENDED SUPPORT**

If your site wishes to have CAFC automatically allocate and free DCT extra partition data set queues whenever CEMT commands or EXEC CICS program calls open and close DCT resources, activate this option. CICS Versions 3.x and 4.x do not offer a documented interface to monitor DCT open/close activity. NETEC wrote a proprietary program to provide this interface facility. Insure that you have performed the DFHDEB70 installation procedure described in Installation STEP 2. If you do not activate this option, you can still allocate and free DCT resources using CAFC's explicit allocate and free commands. You must insure the resource has been allocated before issuing a CEMT open request. You must close and then explicitly free the resource with CAFC before it will be deallocated from CICS.

**EXEC CICS SET TRAN - PCT EXTENDED SUPPORT**

This support should be activated if you use CEMT commands or the EXEC CICS interface to enable and disable transactions. Without CAFC's PCT interface installed, the transaction enable/disable status stored in the CAFC Table File may differ from the true status stored in the PCT. If you always use CAFC requests to change this status, CAFC will maintain the correct enable/ disable status. This support should be installed if you routinely use non CAFC facilities, e.g. CEMT commands, to change transaction status. Ensure that you have performed the DFHDEB70 installation procedure for APF Authorization as described in Installation STEP 2.

**EXEC CICS SET ACCESS - FILE SERVICE REQUEST EXTENDED SUPPORT**

This support should be activated if you use CEMT commands or the EXEC CICS interface to alter the file service status. Without CAFC's FILE SERVICE REQUEST interface installed, the service request status stored in the CAFC Table File may differ from the true status stored in the FCT. If you always use CAFC requests to change file service status, CAFC will maintain the true status without this interface.

**EXEC CICS PERFORM SHUTDOWN - CEMT P,SHUT INTERCEPTION**

Activation of this option allows CAFC to be terminated whenever a CEMT P,SHUT is issued eliminating the need for placing AFCP9999 in the shutdown PLT. CAFC will intercept the P,SHUT and allow CICS to continue it's PLT shutdown process while CAFC is being shutdown.

If you prefer to run AFCP9999 from the PLT, set this option to 'N'. Program AFCP9999 must be placed prior to DFHDELIM to run during first stage of PLT processing. CAFC will not remove its support until all current activity has ceased.

## CAFC FEATURES AND CONSIDERATIONS

## DFHRPL MANAGEMENT OPTIONS

Pictured below are the RPL CONCATENATION OPTIONS parameters for updating the RPL management facility.

IF RPL ALLOCATION FAILS                      THEN RECOVERY ACTION WILL BE:

AT CICS STARTUP TIME ==> 2 1 / 2 / 3

AFTER CICS IS RUNNING==> 2 1 / 2

1 = DO NOT RECONCATE DFHRPL

2 = OMIT FAILING DDN FROM DFHRPL

3 = ABNORMALLY TERMINATE CICS REGION

WARM START DFHRPL        ==> Y   Y = START CICS WITH LATEST REQUESTED  
RPL CONCATENATION

N = START CICS WITH DFHRPL FROM CICS JCL

WARM START RPL NAME ==> RPLA NAME OF CAFC RPL RECORD FOR WARM START

## RECOVERY ACTION - AT CICS STARTUP TIME

If the reconcatenation at CICS Start-Up fails, CAFC uses the Recovery Action to determine how to proceed. Depending upon the value specified, the reconcatenation will be abandoned, will proceed without the RPL in error, or CICS Start-Up will be abnormally terminated.

Default value is ==> 1

## RECOVERY ACTION - AFTER CICS IS RUNNING

If a reconcatenation function fails, CAFC uses the Recovery Action to determine how to proceed. Depending upon the value specified, the reconcatenation will be abandoned or will proceed without the RPL in error.

Default value is ==> 1

## NAME OF RPL - WARM START DFHRPL

When warm start is selected, this field specifies which RPL List name that will be used to determine which RPLs should be included in the DFHRPL concatenation.

Default value is ==> BLANK

**DFHRPL MANAGEMENT OPTIONS - CONTINUED****WARM START RPL NAME**

This option determines whether the most recently used DFHRPL concatenation should be used at CICS start-up. CAFC automatically maintains the most recently requested RPL concatenation in the CAFC Table File. If 'Y' is specified, the most recently requested DFHRPL concatenation will be loaded at start-up by AFCPSIPY. See the chapter on 'CICS Startup Considerations - AFCPSIPY Early Allocation Requirements' for instructions on how to install AFCPSIPY. If 'N' is specified, CAFC will not override the external DFHRPL concatenation. This value can be overridden by specifying 'WARMRPL=Y' or 'N' in the CAFCPARMS startup, override parameter file.

Default value is ==> N

**SPECIAL OPTIONS SUPPORT**

The parameters pictured below, activate CAFC's special options. These options were originally distributed as customized zaps sent out to our users. You should seldom need to activate any of these options.

```

SECURE CUSTOMIZATION  ==> N          (Y/N)   REQUIRE MASTER USERID TO
      BROWSE CUSTOMIZATION OPTIONS
AFCF4000 STRING NUMBER ==> 05          05 - 32 STRING NUMBER OVERRIDE FOR
      THE AFCF4000 ACB
MSG-108 RETURN CODE   ==> N          (Y/N)   IGNORE MESSAGE 108
      (ENTRY NOT IN FCT/DCT)
SHUTDOWN DELAY TIME   ==> 0004        0001 - DELAY TIME IN SECONDS TO
      1500 DELAY CAFC INTERCEPT SHUTDOWN

```

After entering the item symbol for "SPECIAL OPTIONS" from the Customization Option Menu, the SPECIAL OPTIONS parameters are displayed.

**SECURE CUSTOMIZATION**

Activation of this option requires user to have master userid to browse customization options.

**AFCF4000 STRING NUMBER**

This option allows user to increase the number of strings for the CAFC AFCF4000 file to eliminate any string wait problems.

**MSG-108 RETURN CODE**

This option suppresses CAFC message 108 (entry not found in FCT/DCT) with return code of zero.

**SHUTDOWN DELAY TIME**

This value is used in conjunction with the automatic shutdown option when it is set to 'Y' and is used to wait for completion of any user PLTSD programs which perform file requests which would involve CAFC.

**MESSAGE FACILITY OPTIONS**

Pictured below is the MESSAGE FACILITY options panel for entering the CAFC Message Facility Customization.

```

+-----+
|----- MESSAGE FACILITY CUSTOMIZATION -----CAFC PANEL# 21L|
|
| SELECT OPTION ==>          TABLE ENTRY ==>
|
|
| 1  ACF USER MESSAGE - GLOBAL CUSTOMIZATION
| 2  ACF USER MESSAGE - APPLICATION CUSTOMIZATION
|
|
|
|
| PRESS  CLEAR KEY TO TERMINATE CAFC
|
| PF1-HLP  PF2-2ND SES  PF3-END  PF4-RET          PF9-ALT SES
|-----+

```

After entering the item symbol for the MESSAGE FACILITY from the Primary Customization Menu, the MESSAGE FACILITY CUSTOMIZATION panel is displayed. Use this panel to enter one of the MESSAGE FACILITY customization options.

- 1 GLOBAL CUSTOMIZATION
- 2 APPLICATION CUSTOMIZATION

**GLOBAL CUSTOMIZATION**

This contains the messages and their locations for all events that are to be reported on a global basis, i.e. any OPEN, CLOSE, ENABLE, etc. These messages will be used if:

1. The message facility is enabled
2. The functional messages are enabled
3. The event is listed in the global customization panel
4. The return code matches the return code generated for the event (00=normal return, 04=partial/warning return, 08=event failure)
5. There is not an application level customization record for the application ddname or application transaction name that initiated the event.



**MESSAGE FACILITY OPTIONS - CONTINUED**

**APPLICATION CUSTOMIZATION**

This contains the messages for all events that are to be reported on at an application level, either DDNAME or Transaction is entered in TABLE ENTRY. These messages will be displayed if:

1. The global customization record has been defined and the message facility has been enabled
2. The functional message facility has been enabled in the global customization record
3. The application customization record for this application has been defined and the functional messages have been enabled
4. The event is listed in the global customization panel
5. The return code matches the return code generated for the event  
(00=normal return,04=partial/warning return,08=event failure)

**MESSAGE FACILITY OPTIONS - CONTINUED****GLOBAL CUSTOMIZATION**

Pictured below is the MESSAGE CUSTOMIZE FACILITY for updating the CAFC global messages.

```

+-----+----- MESSAGE CUSTOMIZE FACILITY -----CAFC PANEL# 21M
| COMMAND INPUT ==>                                SCROLL ==>
|
| ENABLE ALL MESSAGES      ==> Y (Y=MSG FACILITY ENABLED, N=ALL MSGS DISABLED)
| FUNCTION MESSAGES       ==> Y (Y=MESSAGES ENABLED, N=MESSAGES DISABLED)
| PROCESSING OPTION       ==> 1 (1=PROCESS APPLICATION, 2=PROCESS DDNAME
|                           3=PROCESS APPLICATION AND DDNAMES)
| LOCATION OF MSG - ROW   ==> 01 (ROW WHERE MESSAGE WILL APPEAR)
|                       - COLUMN==> 01 (COLUMN WHERE MESSAGE WILL APPEAR)
|                       - LENGTH==> 56 (MAXIMUM LENGTH OF MESSAGE)
|
| FUNCTION RC              TEXT                                ATTRIBUTE
| O      00 @REQUEST FOR @APPLDDN COMPLETED - @STATUS @DATE @TIME      BR
| O      04 @REQUEST FOR @APPLDDN COMPLETED - @STATUS @DATE @TIME      BR
| O      08 @REQUEST FOR @APPLDDN COMPLETED - @STATUS @DATE @TIME      BR
| C      00 CLOSE FOR @APPLDDN COMPLETED - @DATE @TIME                 NM
| C      04 CLOSE FOR @APPLDDN COMPLETED - @DATE @TIME                 NM
| C      08 CLOSE FOR @APPLDDN NOT COMPLETED - @DATE @TIME             NM
|
| PF1-HLP  PF2-2ND SES  PF3-END  PF4-RET  PF7-BWD PF8-FWD PF9-ALT SES
+-----+-----+

```

After entering the item number for GLOBAL CUSTOMIZATION from the message facility customization menu, the MESSAGE CUSTOMIZE FACILITY panel is displayed. Use this panel to update the following options:

1. COMMAND INPUT
2. SCROLL
3. ENABLE ALL MESSAGES
4. FUNCTION MESSAGES
5. PROCESSING OPTION
6. ROW
7. COLUMN
8. LENGTH
9. FUNCTION
10. RETURN CODE
11. TEXT
12. ATTRIBUTE

**MESSAGE FACILITY OPTIONS - CONTINUED****COMMAND INPUT**

The command input field directs the system to perform a specific task. These tasks are described below.

Blank	Edit the input and present the results
SAVE	Edit the input and save the data if there are no errors

**SCROLL**

This field directs the system to the proper scroll amount for multiple page display. The scroll may be entered into the COMMAND INPUT field or into the SCROLL field on the input screen. If entered into the COMMAND INPUT screen, then that value will remain in the COMMAND INPUT field until overwritten by the user. The same is true for the SCROLL field. The valid entries into the SCROLL field are:

PAGE	Display the next full page of data beginning with the next entry after the last one on the screen
HALF	Display a full page of data beginning with the entry that is halfway up or down from the current entry
Numeric	Display a full page of data beginning with the Nth entry up or down from the current entry
M	Maximum. Display a full page of data beginning with the first entry in the record, or display a full page of data where the last entry in the record is the last entry on the screen.

**ENABLE ALL MESSAGES**

If this option is set to Y, the CAFC message facility is enabled. For any messages to be sent via the CAFC message facility, this option must be set to Y. This includes both automatic and user delivered messages. This is a required field.

Default value ==> none

**FUNCTION MESSAGES**

If this option is set to Y, the CAFC automatic message send facility is enabled. If set to N, only the user message facility is enabled. This is only a required field if ENABLE ALL MESSAGES is set to Y.

Default value ==> N (if ENABLE ALL MESSAGES set to N, else none)

**MESSAGE FACILITY OPTIONS - CONTINUED****PROCESSING OPTION**

This field specifies which elements are to be processed. Messages may be sent from APPLICATION list and/or DDname processing.

- 1 Process APPLICATION lists only.
- 2 Process DDname only.
- 3 Process APPLICATION and DDname.

**ROW**

This tells the message facility which row the message is to appear on CICS attached terminals.

Default value ==> 01

**COLUMN**

This tells the message facility which column the message is to appear on CICS attached terminals.

Default value ==> 01

**LENGTH**

This gives the maximum message length expected from all of the messages defined in the global record.

Default value ==> 56

The fields labeled FUNCTION, RC, TEXT and ATTRIBUTE all define one complete message unit. There is one message unit described per line on the rest of the input screen.

**MESSAGE FACILITY OPTIONS - CONTINUED****FUNCTION**

This gives the event that is to trigger the message facility. The function may be entered anywhere in the function field as long as it is one of the accepted function values. This is a required field. The following list gives the accepted function values:

Open	O, OP, OPE, OPEN
Close	C, CL, CLO, CLOS, CLOSE
Allocate	A, AL, ALL, ALLO, ALLOC
Free	F, FR, FRE, FREE
Enable FCT/DCT Entry	EF
Disable FCT/DCT Entry	DF
Enable Application Transaction	E, EN, ENA, ENAB, ENABL
Disable Application Transaction	D, DI, DIS, DISA, DISAB
Open Files and Enable Transactions	OE
Disable Transactions and Close Files	DC
Enable DL/I Database	DBD
Recover DL/I Database	DBR
Assign Read Only	RO
Assign Update	UP, UPD, UPDA, UPDAT
Assign Read	RD, READ
Assign Exclusive	EX, EXC, EXCL, EXCLU
Status Display	S, ST, STA, STAT, STATU
Display Activity Counts	K
Reconcatenate DFHRPL	RPL
Re-open DFHRPL	ORPL
Synchronize Restart Parameters	SYNCH
Install FCT Entry	FI
Delete FCT Entry	FD

Default value ==> none

**MESSAGE FACILITY OPTIONS - CONTINUED****RETURN CODE**

The return code defines the outcome of the event for which the message is to be sent. This field is optional. The valid return codes are:

- 00 - Normal Return
- 04 - Partial Completion/Warning Return
- 08 - Complete Event Failure
- Default value ==> 00

**TEXT**

This is the actual message text that will be sent to the specified terminals. It may contain any sequence of displayable EBCDIC characters including special characters. There are five (5) parameters that may be specified to direct the message facility to substitute certain values prior to the message being sent. These parameters must appear as shown. If any user character string matches any of these parameters, then the system will substitute the proper value for the parameter before the message is routed to the terminal. The parameters are listed below:

- @APPLDDN This is the Application DDNAME or Application Transaction that triggered the event (8 characters).
- @REQUEST This is the specific function that triggered the event. The length is variable, 1 to 5 characters depending upon the function.
- @STATUS This is the return code from the function (2 characters).
- @DATE This is the current CICS date in the form MM/DD/YY.
- @TIME This is the current CICS time in the form HH:MM.

**ATTRIBUTE**

This gives the intensity of the message when it is displayed on a CICS terminal. Only the first character needs to be entered. Its values and abbreviations are shown:

- BR Highlight (Bright intensity - abbrev. B)
- NM Normal (Normal intensity - abbrev. N)
- Default value ==> BR (Bright)

**MESSAGE FACILITY OPTIONS - CONTINUED****APPLICATION CUSTOMIZATION**

Pictured below is the APPLICATION EDIT TABLE panel for updating the Application Level messages.

```

+-----+
|----- EDIT TABLE= APPLCUST    ENTRY=DFHFCT1          -----CAFC PANEL# 21N|
|COMMAND INPUT ==>                                     SCROLL == > PAGE|
|
|FUNCTION MESSAGES          ==> Y (Y=MESSAGES ENABLED, N=MESSAGES DISABLED)|
|
|LOCATION OF MSG - ROW      ==> 01 (ROW WHERE MESSAGE WILL APPEAR)|
|      - COLUMN==> 01 (COLUMN WHERE MESSE WILL APPEAR)|
|      - LENGTH==> 56 (MAXIMUM LENGTH OF MESSAGE)|
|
|FUNCTION RC              TEXT                                     ATTRIBUTE|
|FI          00 @APPLDDN INSTALLATION COMPLETE @DATE @TIME          BR|
|FI          04 @APPLDDN ENTRIES ALREADY INSTALLED - @DATE @TIME      BR|
|FI          08 @APPLDDN INSTALLATION NOT COMPLETE - @DATE @TIME      BR|
|F           00 DFHFCT1 ENTRIES FREED                                NM|
|F           04 DFHFCT1 ENTRIES ALREADY FREED                        NM|
|
|PF1-HLP  PF2-2ND SES  PF3-END  PF4-RET    PF7-BWD PF8-FWD PF9-ALT SES|
+-----+

```

After entering the item number for APPLICATION CUSTOMIZATION from the Message Facility Customization menu, the APPLICATION EDIT TABLE panel is displayed. Use this panel to update the following options:

1. COMMAND INPUT
2. SCROLL
3. FUNCTION MESSAGES
4. ROW
5. COLUMN
6. LENGTH
7. FUNCTION
8. RETURN CODE
9. TEXT
10. ATTRIBUTE

**MESSAGE FACILITY OPTIONS - CONTINUED****COMMAND INPUT**

The command input field directs the system to perform a specific task. These tasks are described below.

Blank	Edit the input and present the results.
SAVE	Edit the input and save the data if there are no errors.
COPY	Copy an already existing definition into this one. If the edit is being performed on an existing record, the data will be overlaid. If not, then the data fills the current work record.
CREATE	Create a new definition from the one currently displayed.
REPLACE	Replace a current definition with the data currently displayed.

**SCROLL**

This field directs the system to the proper scroll amount for multiple page display. The scroll may be entered into the COMMAND INPUT field or into the SCROLL field on the input screen. If entered into the COMMAND INPUT screen, then that value will remain in the COMMAND INPUT field until overwritten by the user. The same is true for the SCROLL field. The valid entries into the SCROLL field are:

PAGE	Display the next full page of data beginning with the next entry after the last one on the screen.
HALF	Display a full page of data beginning with the entry that is halfway up or down from the current entry.
Numeric	Display a full page of data beginning with the Nth entry up or down from the current entry.
M	Maximum. Display a full page of data beginning with the first entry in the record; or display a full page of data where the last entry in the record is the last entry on the screen.

**FUNCTION MESSAGES**

If this option is set to Y, the CAFC automatic message send facility for this application is enabled. If set to N, only the user message facility is enabled. This is a required field.

Default value ==> none

**ROW**

This tells the message facility which row the message is to appear on CICS attached terminals. This value overrides the row value in the global definitions.

Default value ==> 01



**MESSAGE FACILITY OPTIONS - CONTINUED****COLUMN**

This tells the message facility which column the message is to appear on CICS attached terminals. This value overrides the column value in the global definitions.

Default value ==> 01

**LENGTH**

This gives the maximum message length expected from all of the messages defined in this application record. This value overrides the length value in the global definitions.

Default value ==> 56

The fields labeled FUNCTION, RC, TEXT and ATTRIBUTE all define one complete message unit as they were for the global definitions. There is one message unit described per line on the rest of the input screen.

**REQUEST**

This gives the event that is to trigger the message facility. The request may be entered anywhere in the request field as long as it is one of the accepted request values. This is a required field. The following list contains the valid request values:

Open	O, OP, OPE, OPEN
Close	C, CL, CLO, CLOS, CLOSE
Allocate	A, AL, ALL, ALLO, ALLOC
Free	F, FR, FRE, FREE
Enable FCT/DCT Entry	EF
Disable FCT/DCT Entry	DF
Enable Application Transaction	E, EN, ENA, ENAB, ENABL
Disable Application Transaction	D, DI, DIS, DISA, DISAB
Open Files and Enable Transactions	OE
Disable Transactions and Close Files	DC
Enable DL/I Database	DBD
Recover DL/I Database	DBR
Assign Read Only	RO
Assign Update	UP, UPD, UPDA, UPDAT
Assign Read	RD, READ
Assign Exclusive	EX, EXC, EXCL, EXCLU
Status Display	S, ST, STA, STAT, STATU
Display Activity Counts	K
Reconcatenate DFHRPL	RPL
Re-open DFHRPL	ORPL
Synchronize Restart Parameters	SYNCH

**MESSAGE FACILITY OPTIONS - CONTINUED**

Lock file	L
Close & Lock file	CL
Disable, Close & Lock file	DCL
Unlock file	U
Unlock & Open file	UO
Unlock, Open & Enable file	UOE
Inquiry about Alternate Dsname	INQ
Exchange Dsnames	EXC
Close, Exchange & Open Dsname	CXO
Set No Alternate Dsname	NOA
Set Primary Dsname	PRI
Set Secondary Dsname	Sec
Recall data set	R

**RETURN CODE**

The return code defines the outcome of the event for which the message is to be sent. This field is optional. The valid return codes are:

- 00 - Normal Return
  - 04 - Partial Completion/Warning Return
  - 08 - Complete Event Failure
- Default value ==> 00

**TEXT**

This is the actual message text that will be sent to the specified terminals. It may contain any sequence of displayable EBCDIC characters including special characters. There are five (5) parameters that may be specified to direct the message facility to substitute certain values prior to the message being sent. These parameters must appear as shown. If any user character string matches any of these parameters, then the system will substitute the proper value for the parameter before the message is routed to the terminal. The parameters are listed below:

- @APPLDDN This is the Application DDNAME or Application Transaction that triggered the event (8 characters).
- @REQUEST This is the specific function that triggered the event. The length is variable, 1 to 5 characters depending upon the function.
- @STATUS This is the return code from the function (2 characters).
- @DATE This is the current CICS date in the form MM/DD/YY.
- @TIME This is the current CICS time in the form HH:MM.

**MESSAGE FACILITY OPTIONS - CONTINUED**

**ATTRIBUTE**

This gives the intensity of the message when it is displayed on a CICS terminal. Only the first character needs to be entered. Its values and abbreviations are shown:

BR - Highlight (Bright intensity - abbrev. B)

NM - Normal (Normal intensity - abbrev. N)

NOTE: See the USER MANUAL for instructions for defining Application Routing Lists. These lists define the destination to receive the various messages.

**COMMANDS FOR CUSTOMIZATION PANELS**

SAVE ==> IMMEDIATELY SAVE CONTROL RECORD UPDATES.  
CANCEL ==> TERMINATE WITHOUT SAVING UPDATES.  
FIND ==> POSITION DISPLAY AT SECTION NAME.

**PF-KEYS FOR CUSTOMIZATION COMMANDS**

PFK1 ==> EXPLANATION OF ERROR MESSAGE.  
PFK2 ==> CREATE SECOND CAFC SESSION.  
PFK3 ==> TERMINATE EDIT AND SAVE UPDATES.  
PFK4 ==> RETURN TO PREVIOUS MENU.  
PFK7 ==> SCROLL UP.  
PFK8 ==> SCROLL DOWN.  
PFK9 ==> SWITCH TO ALTERNATE SESSION.  
PFK10 ==> SCROLL UP TO PREVIOUS SECTION.  
PFK11 ==> SCROLL DOWN TO NEXT SECTION.

**DSNAME VARIABLES**

Dsname variables can be used in multiple region environments where the ddnames for files are the same between the regions and the dataset names are the same except for special identifiers that designate the file is a test file or a production file.

---- DSNAME VARIABLES ----

&V1	==>	DSNAME	VARIABLE	SYMBOL	VALUE
&V2	==>	DSNAME	VARIABLE	SYMBOL	VALUE
&V3	==>	DSNAME	VARIABLE	SYMBOL	VALUE
&V4	==>	DSNAME	VARIABLE	SYMBOL	VALUE
&V5	==>	DSNAME	VARIABLE	SYMBOL	VALUE
&V6	==>	DSNAME	VARIABLE	SYMBOL	VALUE
&V7	==>	DSNAME	VARIABLE	SYMBOL	VALUE
&V8	==>	DSNAME	VARIABLE	SYMBOL	VALUE

**HOW TO SPECIFY VARIABLE SYMBOLS:**

1. There are 8 symbols named &V1 to &V8.
2. They may be specified at CICS startup in CAFCPARM:  
 &V1=NETEC  
 &V6=TEST  
 The values are saved in the control record and will be used for this CICS execution until changed by customization options edit.
3. They may be specified during CICS execution by customization options edit.  
 The variable symbols will be effective for the next time that a file is opened.  
 It is the users responsibility to coordinate closing files, changing variable symbols and opening files.
4. The dsname for any ddname entry is specified by the ddname edit. The format is:

&V1.VSAM.CAFC4400.QAFCT01

The value for variable symbol &V1 will be substituted in the dsname field in place of the '&V1'. Multiple variable symbols may be specified in the dsname. The effective dsname is displayed on the edit screen.

5. Offline programs (BATCH) will use the latest values for the variable symbols from the control record.

**DSNAME VARIABLES-CONTINUED**

Below is a scenario that describes the use of the dsname variables in a multiple CICS environment consisting of multiple TEST and QA regions and 1 production region.

Each environment has it's own RDO group containing FCTs,...etc. In this environment the ddname is the same for a specific file across all CICS regions. The dsname is not. The dsname will have one of the nodes indicating the region level .. i.e. TEST, QA, PROD. With this arrangement it means every CICS region will have a separate RDO group for each region. For example: There are three files

- PAYMASTR
- SITETAX
- DEDUCTION

and three CICS environments: TEST, QA, PROD. The naming convention for the datasets will be:

## TEST REGIONS.

- PAYROLL.TEST.PAYMASTR
- PAYROLL.TEST.SITETAX
- PAYROLL.TEST.DEDUCTION

## QA REGIONS.

- PAYROLL.QA.SITETAX
- PAYROLL.QA.DEDUCTION

## PRODUCTION REGIONS.

- PAYROLL.PROD.PAYMASTR
- PAYROLL.PROD.SITETAX
- PAYROLL.PROD.DEDUCTION

The RDO groups would be PAYPROD, PAYQA and PAYTEST. CAFC's Dsname Variables provide the capability to code the following in a CAFC ddname definition:

- PAYROLL.&V1.PAYMASTR
- PAYROLL.&V1.SITETAX
- PAYROLL.&V1.DEDUCTION

and in the control options for dsname variables specify &V1=TEST, or &V1=QA, or &V1=PROD.

**DSNAME VARIABLES-CONTINUED**

The CAFC ddname definition would be defined only once per environment and propagated to all other regions AF4000 tablefile. The customization option for each region would show the appropriate value for that regions &V1. I.E. &V1=PROD for the production region, and changed to say &V1=QA for the QA regions, and changed in the test regions to read &V1=TEST. When the file is open in the production region it would open with

PAYROLL.PROD.PAYMASTR,

And the QA would get PAYROLL.QA.PAYMASTR.

## CUSTOMIZATION OPTIONS

### **DBCTL OPTIONS SUPPORT**

The parameters pictured below, activate CAFC's DBCTL options. These options will only be displayed if the DBCTL support option is activated. After entering the item symbol for "DBCTL " from the Customization Option Menu, the DBCTL OPTIONS parameters are displayed.

```
DFSPZP.. SUFFIX          ==> 00    SUFFIX FOR DB CONTROL MODULE IN CICS
DBCTL NAME               ==> IVP3 DB CONTROL NAME
DBCTL BATCH TIME OUT     ==> 00    00 - 10 MINUTES TO WAIT FOR DBCTL TO
                           CONFIRM REQUEST COMPLETE
                           00 INDICATES DO NOT WAIT FOR
                           CONFIRMATION
INCLUDE NOFEOV OPERAND
  ON DBD REQUEST          ==> N      (Y/N)
  ON DBR REQUEST          ==> N      (Y/N)
```

#### **DFSPZP.. SUFFIX**

The suffix of the DFSPZP DBCTL table within CICS.

#### **DBCTL NAME**

The DBCTL name specified in the DFSPZP table.

#### **DBCTL BATCH TIME OUT**

Default is 00. No wait.

#### **INCLUDE NOFEOV OPERAND ON DBD REQUEST**

If this option is 'Y' the NOFEOV operand will be added to the DBD request.

#### **INCLUDE NOFEOV OPERAND ON DBR REQUEST**

If this option is 'Y' the NOFEOV operand will be added to the DBR request.

## CUSTOMIZATION OPTIONS

### **VSAM RLS SUPPORT**

The parameters pictured below, activate various CAFC RLS control features. These options will only be displayed if the RLS support option is activated. After entering the item symbol for "VSAM RLS SUPPORT" from the Customization Option Menu, the VSAM RLS SUPPORT parameters are displayed.

SET RLS DSNAME	==> Y	(Y/N)	UPDATE DSNAME IN FCT (PLTPI)
AUTOMATIC QUIESCE	==> N	(Y/N)	QUIESCE RLS FILES ON CLOSE REQUEST
AUTOMATIC UNQUIESCE	==> N	(Y/N)	UNQUIESCE RLS FILES ON OPEN REQUEST
PROPAGATE ENABLE	==> N	(Y/N)	ENABLE ASSOCIATED FCTS WHEN RLS FILE IS UNQUIESCED
PROPAGATE OPEN	==> N	(Y/N)	OPEN ASSOCIATED FCTS WHEN RLS FILE IS UNQUIESCED
PROPAGATE DISABLE	==> N	(Y/N)	DISABLE ASSOCIATED FCTS WHEN RLS FILE IS QUIESCED
PROPAGATE FREE	==> N	(Y/N)	FREE ASSOCIATED FCTS WHEN RLS FILE IS QUIESCED
WAIT FOR QUIESCE	==> Y	(Y/N)	WAIT UNTIL QUIESCE REQUESTS COMPLETE

### **SET RLS DSNAME**

If this option is selected or set to 'Y' all FCT files defined as RLS will have there dataset names set into the FCT during CAFC initialization. This option can be overridden by specifying 'SETRLSDSN=Y' or 'N' in the CAFCPARMS startup override parameter file.

Default value is ==> Y

### **AUTOMATIC QUIESCE**

This option when set to 'Y' will cause a Quiesce command to CICS (or directly to the VSAM control region from batch) when any type of close is issued against a RLS file. The file must be marked as RLS in CAFC Table File for the B/I program to add the quiesce to a close request. RLS support must also be activated.

Default value ==> N

### **AUTOMATIC UNQUIESCE**

This option when set to 'Y' will cause a Unquiesce command to CICS (or directly to the VSAM control region from batch) when any type of open is issued against a RLS file. The file must be marked as RLS in CAFC Table File for the B/I program to add the unquiesce to a open request. RLS support must also be activated.

Default value ==> N



**VSAM RLS SUPPORT OPTIONS - CONTINUED**

**PROPAGATE ENABLE**

This option, when set to 'Y' will cause all ddnames associated with the dsname being unquiesced to be enabled in each CICS where they are defined to CICS and CAFC. The EXEC CICS Support option for RLS Support must be set to 'Y' and active in all regions for this option to work properly.

Default value ==> N

**PROPAGATE OPEN**

This option, when set to 'Y' will cause all ddnames associated with the dsname being unquiesced to be opened in each CICS where they are defined to CICS and CAFC. The EXEC CICS Support option for RLS Support must be set to 'Y' and active in all regions for this option to work properly.

Default value ==> N

**PROPAGATE DISABLE**

This option, when set to 'Y' will cause all ddnames associated with the dsname being quiesced to be disabled in each CICS where they are defined to CICS and CAFC. The EXEC CICS Support option for RLS Support must be set to 'Y' and active in all regions for this option to work properly.

Default value ==> N

**PROPAGATE FREE**

This option, when set to 'Y' will cause all ddnames associated with the dsname being quiesced to be freed in each CICS where they are defined to CICS and CAFC. The EXEC CICS Support option for RLS Support must be set to 'Y' and active in all regions for this option to work properly.

Default value ==> N

**WAIT FOR QUIESCE**

This option when set to 'Y' quiesce request will include a file quiesce wait.

**CICS STARTUP CONSIDERATIONS****INTRODUCTION**

CAFC offers four facilities to enhance region start-ups. The facilities are AFCPSIPY, CAFCOVER, and AFPCWARM. AFCPSIPY is primarily used to allocate journals and data queues that need to be available very early in the CICS initialization process. AFCPSIPY is rarely needed in a CICS VERSION 3 or above environment. CAFCOVER is used to process ad hoc CAFC requests that will override specific resource warm start status conditions that CAFC would normally set through its warm start processing. AFPCWARM is used to change the global CAFC warm start options for the next CICS startup.

**AFCPSIPY - EARLY ALLOCATION REQUIREMENTS**

AFCPSIPY runs before the CICS region begins its initialization process. Its main function is to allocate files that need to be available before PLTPI processing. To perform this activity, AFCPSIPY interrogates: (1) your Warm Start Customization Option settings for DCT, and Other type files, (2) any global warm start overrides controlled by a CAFCPARM DD statement, (3) individual DCT, and Other type file ddname records that contain a warm start override and (4) files registered to CAFC that are prefixed with 'DFH'. AFCPSIPY integrates this information and determines whether an early allocation is necessary. Finally, it performs direct allocations for those selected resources. Override requests, placed in CAFCOVER, will subsequently override an allocated status previously set by AFCPSIPY.

You should rarely need AFCPSIPY if you are running applications designed for CICS Version 3 or later. Normally, critical DCT files can be allocated through standard CICS startup JCL or through CAFC's AFPCWARM. When installing AFCPSIP, place AFCPSIPY into an authorized library in the CICS job STEPLIB concatenation. Also, ensure that the APPLID keyword parameter is specified in the SIT or SIT overrides. To activate AFCPSIPY, use the CICS execute statement below;

```
//CICS          EXEC   PGM=AFCPSIPY,PARM='SYSIN,.END,XCTL=xxxxxxxx'
```

where 'xxxxxxxx' is the program AFCPSIPY is to transfer control to upon its completion. Normally 'xxxxxxxx' is CICS's initialization program name. The default causes AFCPSIPY to transfer control to DFHSIP. In this case no parm value other than PARM='SYSIN' is required.

## CICS STARTUP CONSIDERATIONS

## CAFCOVER - CAFC OVERRIDE REQUESTS AT STARTUP

CAFCOVER and AFPCWARM run in the third stage of CICS PLTPI processing. Both programs are driven by the PLTPI program, AFPC2010. CAFCOVER runs before AFPCWARM and processes any ad hoc CAFC requests that follow a CAFCOVER DD statement if it is present in the region's startup JCL. After CAFCOVER has completed any override request processing, AFPC2010 starts AFPCWARM. The CAFC request types that are valid through CAFCOVER follow:

A	ALLOCATE	F	FREE
O	OPEN	C	CLOSE
EF	ENABLE FILE	CE	CLOSE & ENABLE
E	ENABLE TRANSACTION	DF	DISABLE FILE
OE	OPEN & ENABLE	D	DISABLE TRANSACTION
DBD	DATABASE DUMP	DC	DISABLE & CLOSE
RO	SET READ ONLY	DBR	DATABASE RECOVERY
RD	SET READ WITH INT	UP	SET UPDATE
S	DISPLAY STATUS	EX	SET EXCLUSIVE
L	LOCK	U	UNLOCK
CL	CLOSE & LOCK	UO	UNLOCK & OPEN
DCL	DISABLE, CLOSE & LOCK	UOE	UNLOCK, OPEN & ENABLE
ID	INSTALL DCT	BID	BYPASS WARM INSTALL OF DCT
NOA	SET NO ALTERNATE DSN	PRI	SET PRIMARY DSNAME
SEC	SET SECONDARY DSNAME	INQ	INQUIRE ABOUT DSNAME
EXC	EXCHANGE DSNAMES	CXO	CLOSE, EXCHANGE DSNAMES, OPEN
FC	FORCE CLOSE		

To activate the CAFCOVER request override feature, simply add the following DD statement to the region's startup JCL.

//CAFCOVER DD \*

CAFCOVER requests use a format very similar to B/I requests except no CICS applid is specified. Code your CAFCOVER requests as 80 byte records. Use commas between each field. The request command line format follows.

$$f \dots f, tt, n \dots n$$

```

+--CAFC Resource Name, eg. 'ddname for the FCT file'.
+--CAFC Resource Type, eg. 'DD' for a ddname in the FCT.
+--CAFC Request, eg. 'DC' for disable and close.

```

**CAFCOVER FOR DSNNAME STARTUP OVERRIDES**

CAFCOVER was originally developed for switching dsnames from their Primary entry names to their Secondary entry names. CAFC will normally use the dsname, either primary or secondary, per the flag in the ddname record. You may override the dsname to be used once the CICS region becomes active through CAFCOVER requests. CAFCOVER override requests are processed by AFPCP2010 before warm start processing. Make sure a CAFCOVER DD\* statement is present in the region's startup JCL.

Code your CAFCOVER dsname switch requests on 80 byte records in the following format:

```
fffff,tt,n.....n
```

Where

fffff	The 1-5 byte CAFCOVER request. It must be one of the following: NOA No alternate dsname PRI Set to Primary dsname SEC Set to Secondary dsname EXC Exchange Primary/Secondary dsname
Tt	The 2 character CAFC Entry Type code. It must be one of the following: D Ddname DD FCT Ddname A Application G Group
n.....n	The 1 to 8 character CAFC Table entry name, Group or Application List name upon which you want the CAFC request performed.

Examples: //CAFCOVER DD \*

PRI,G,CUST04	Switch the active dsname to the one stored in the primary dsname field when allocating or opening files belonging to the group list named 'CUST04'.
--------------	---

SEC,DD,CUSTMST2	Switch the active dsname to the one stored in the secondary dsname when allocating or opening a vsam file in the FCT associated with 'CUSTMST2'.
-----------------	--

**AFCPWARM - CAFC'S WARM START FACILITY**

AFCPWARM first interrogates: (1) your WARM Start Customization Option settings, (2) any CAFCOVER requests, (3) any global warm start overrides present in the CAFCPARM DD statement and (4) individual any warm start overrides set at the ddname and transaction level within the CAFC Table file. Then it reads every resource in the CAFC Table File. AFCPWARM integrates this information and determines the proper warm start status for each resource. Finally, it performs the status change(s) required to place each resource in proper warm start status. AFCPWARM honors requests that you have placed in CAFCOVER. That is, the resulting status from a CAFCOVER request will not be changed (overridden) by CAFCWARM.

CAFC will normally use the parameters you have placed in the CAFC CUSTOMIZATION OPTIONS panels (and the associate Warm Start matrices) to control CICS startup. The actual CAFC warm start processing is initiated by the module AFCP2010 which calls AFCPWARM during PLTPI processing. You may override the global startup options set in the CUSTOMIZATION OPTIONS via parameters following the CAFCPARM DD JCL statement. These override parameters are placed in the CICS region's startup JCL statements after the CAFCPARM sysin dd statement. CAFCPARM parameters also play a role in AFCSIP and AFCPOVER processing. The format for CAFCPARM Warm Start override parameters follows:

```
//CAFCPARM      DD      *  
WARMOTR=f  
COLDDCT=f  
WARMFCT=f  
WARMDCT=f  
WARMPCT=f  
WARMRPL=f  
TRACE=f  
TRIO=f
```

**CAFC'S WARM START FACILITY - CONTINUED**

where f equals 'Y' for Yes or 'N' for No;

where TRACE, TRIO and TRDBCTL are used to activate various types of traces that provide insight into problems during on-line processing;

where WARMOTR=Y should only be specified for CICS regions with OTHER type files (non-FCT entries) that must to be Warm Started (allocated) early in the CICS system initialization process.

**SAMPLE CAFCPARM COMMAND LINES**

CAFCPARM input for no TRACE, no WARMDCT, no WARMFCT, no WARMPTCT

```
//CAFCPARM      DD  *  
WARMDCT=N  
WARMFCT=N  
WARMPTCT=N  
TRACE=N  
TRIO=N
```

CAFCPARM input for full WARMSTART ...

```
//CAFCPARM      DD  *  
WARMDCT=Y  
WARMFCT=Y  
WARMPTCT=Y  
WARMOTR=Y  
TRACE=Y  
TRIO=N
```

**CAFC'S WARM START FACILITY - CONTINUED**

**SYNTAX RULES FOR THE CAFCPARM INPUT**

The parameters following '//CAFCPARM DD \*' may be in any order. You may omit any of the parameters.

**DEFAULT CAFCPARM PARAMETERS**

If you omit the CAFCPARM parameters, CAFC will default to the Warm Start parameters you have specified in the various Customization Option Panels. If you have not updated the Customization Options, the start-up parameters are all initialized to 'N'.

NOTE: Even if your Warm Start Customization Options are all set to 'N', and you have omitted the CAFCPARMS, CAFC WILL STILL ALLOCATE certain critical files provided you are running program, AFCPSIP. These are files defined to the CAFC Table File that are prefixed with 'DFH' with their 'Warm Start Override 1' flag set to 'A'.Start.

**DESIRED RESTART STATUS (DRS) TUTORIAL**

CAFC offers precise control over the statuses of files, transactions and trans data queues during CICS startup. With CAFC's status control mechanism, you can reliably set your files, dct trans data queue, and transactions to exactly the proper status for Cold, Warm and Emergency restarts. The control mechanism is based on (1) the existence of overrides at the individual resource level, i.e. ddname level and (2) user defined global status matrices that handle normal situations. This mechanism is implemented through CAFC's WARM START facility and the concept of Desired Restart Status (DRS). This mechanism is independent of CICS's restart procedures.

There are four independent categories of items defined to CAFC, which can be warm started.

- FCT entries
- DCT entries
- PCT entries
- OTR entries

Each of these resource categories is controlled up to three Desired Restart Status (DRS) fields. The DRS fields are maintained in the CAFC Table File. They are automatically updated each time the status of a CAFC registered resource changes. The DRS fields are:

OPEN STATUS	(with values of 'open', 'closed', 'allocated', 'free', 'recoverdb' or 'dumpdb') for FCT, DCT and DLI entries.
ENABLED STATUS	(with values of 'enabled', 'disabled', or 'unenabled') for FCT, DCT and PCT entries.
ACCESS STATUS	(with values of 'readonly', 'update' for FCT entries.

Of course, all values do not apply to all resource categories.



**DESIRED RESTART STATUS (DRS) TUTORIAL - CONTINUED**

The following sections will trace the management of the Desired Restart Status (DRS) fields.

**HOW DRS FIELDS ARE SET - PCT ENTRIES**

The simplest warm start situation is for the PCT category. PCT entries, represented in CAFC by TXN records, have a single DRS field for Enabled Status with values of 'enabled' or 'disabled'. Whenever an 'E' or 'OE' request is directly or indirectly issued by a CAFC request, the DRS field for each TXN record is set to 'enabled'. Conversely, whenever a 'D' or 'DC' request is issued, the DRS field is set to 'disabled'. Thus the latest enabled/disabled status of the PCT entry is always remembered by CAFC and is stored in the TXN record DRS field.

**HOW DRS FIELDS ARE SET - DCT ENTRIES**

DCT entries have two DRS fields; one is for Open Status with values of 'open', 'closed', 'allocated' or 'free'. The other is for Enabled Status with values of 'enabled' or 'disabled'. DCT entries are represented in CAFC by NON-VSAM DDN items. The DRS Enabled Status field is set to 'enabled' whenever an 'EF' request is issued from the CAFC REQUEST screen for any DCT category entry (directly or as part of a CAFC application or group of applications). This DRS field is set to 'disabled' whenever a 'DF' request is issued for the DCT entry. Thus the latest enabled/disabled status of the DCT entry is remembered by CAFC in the NON-VSAM ddname record DRS field.

The DRS Open Status field is set to 'open' whenever a CAFC 'O' request is issued for the DCT entry (directly or as part of a CAFC application or group of applications). It is also set to 'open' for a CAFC 'OE' request for any DCT entries within an application. In a similar fashion the DRS Open Status field is set to 'closed' for 'C' or 'DC' requests; to 'allocated' for 'A' requests; and to 'free' for 'F' requests. Thus the latest open/closed/ allocated/free status of the DCT entry is remembered by CAFC in this DRS field.

**HOW DRS FIELDS ARE SET - FCT ENTRIES**

FCT entries have three DRS fields: the first is for Open Status, the second for Enabled Status and the third to Access Status. The first two FCT DRS fields are set exactly the same way as the corresponding DRS fields of the DCT entries described above except, the Enabled Status has an additional value of 'unenabled'. The 'unenabled' value is set whenever the FCT entry becomes unenabled as a result of a close request. If you must know, the unenable value is set if the FCT entry was not disabled before and the CAFC close request was completed. In this case CAFC will not automatically disable the entry in support of the close request.

**DESIRED RESTART STATUS (DRS) TUTORIAL - CONTINUED**

The third FCT DRS field for Access Status, stores values of 'readonly' or 'update'. As you have probably guessed, the DRS Access Status field is set to 'readonly' whenever an 'RO' request is issued from the CAFC REQUEST screen. It is set to 'update' whenever a 'UP' request is issued. As before the CAFC request may be issued for the FCT entry directly or as part of a CAFC application or group of applications. It may not be obvious, but you should be aware that the 'RO' and the 'UP' request not only set the Access Status of the FCT entry, but they set the entry to OPENED. Therefore, the DRS Open Status field is also set to 'open' by the 'RO' and 'UP' requests.

**SUMMARY OF DRS SETTINGS FCT, DCT, PCT**

The following tables summarize the settings for the various DRS fields:

**DRS Open Status:**

## CAFC REQUEST

	O/OE	C/DC	A	F	RO/UP
FCTs	open	close	alloc	free	open
DCTs	open	close	alloc	free	----
PCTs	----	----	----	----	----

**DESIRED RESTART STATUS (DRS) TUTORIAL - CONTINUED****DRS Enable Status:**

## CAFC REQUEST

	OE	DC	E	D	EF	DF
FCTs	----	----	----	----	enabled	disabled
DCTs	----	----	----	----	enabled	disabled
PCTs	enabled	disabled	enabled	disabled	----	----

**DRS Access Status:**

## CAFC REQUEST

	RO	UP
FCTs	readonly	update
DCTs	----	----
PCTs	----	----

**HOW DRS FIELDS ARE USED BY CAFC WARM START**

A very simplistic WARM START capability would involve re-establishing each restartable item in each of the three categories (FCT, DCT, and PCT) to its state when the previous CICS session terminated. This is basically what is provided by the standard CICS START=AUTO SIT parameter. CAFC, of course, can do this; but it would leave you with an all-or-nothing warm start situation.

**DESIRED RESTART STATUS (DRS) TUTORIAL - CONTINUED**

The highest level of CAFC warm start control allows you to select which resource categories will participate in CAFC's warm start process. You can choose to warm start DCTs and FCTs but not PCTs . You can choose only FCTs. Choose any combination that makes sense. Simply make your selections on the CAFC CUSTOMIZATION OPTIONS screens, for the resource categories you normally want to be warm started.

For a particular CICS session, you may temporarily override your standard warm start resource category selections with CAFCPARM override parameters.

The lowest level CAFC warm start control allows you to specify exactly how CAFC should warm start each individual FCT, DCT, or TXN entry. For a particular FCT entry, you may specify that it be warm started as one of (open, closed, allocated or free) and also one of (enabled, disabled or unenabled) and also one of (readonly or update ). DCT entries may be warm started as one of (open, closed, allocated or free) and also one of (enabled, disabled). Transactions may be warm-started as enabled or disabled. Any of the above specific warm start override values may be specified as 'X' to indicate that CAFC is not to perform the warm start (or a portion of the warm start) for that particular entry.

The middle level of control provided by CAFC's warm start allows you to globally re-map the warm start of each restartable category based on its DRS values. You accomplish this through CAFC's user defined warm start conversion matrix. This matrix maps the existing set of DRS values to your new DRS values. These new values become the basis for the next CICS startup. As an example suppose that you want every CAFC FCT category entry which was in an open disabled state in the previous CICS session to be warm started in a closed unenabled state. The following FCT warm start matrix would accomplish the desired remapping of the DRS values:

# CICS STARTUP CONSIDERATIONS

## FCT WARM START MATRIX

D R S	enabled	disabled	unenabled
open	open,enabled	CLOSED,UNENABLED	
closed	closed,enabled	closed,disabled	closed,unenabled
allocated	allocated,enabled	allocated,disabled	allocated,unenabled
free	free,enabled	free,disabled	free,unenabled

**DESIRED RESTART STATUS (DRS) TUTORIAL - CONTINUED****WARM START OPTIONS DESCRIPTION**

The warm start options operates in this manner: locate the DRS Open Status in the left column; then set the way you wish the file to be restored on the next CAFC warmstart. The actual warm start options are user defined in the CUSTOMIZATION OPTIONS panels FCT WARM START, DCT WARM START, PCT WARM START and OTR WARM START.

**EFFECTIVE WARM START STATUS (EWS)**

The DRS values are displayed on both the Edit and Browse Screens. In addition, these Screens display the effective warm start (EWS), which is the DRS values processed through all of your CAFC warm start options. Thus you can immediately evaluate the effect of your warm start override values directly on the Edit Screen. Whenever you change the warm start customization options, you can review the Browse Screen and see what effect your new warm start options have on a particular CAFC entry.

**EXAMPLE CAFC WARM START MATRICES**

Using the following example the CAFC FCT warm start matrix will elect a rapid CAFC FCT warm start:

**SAMPLE FCT WARM START MATRIX****FCT WARM START ACTIONS**

IF LAST REQUEST WAS:

THEN WARM START ACTION WILL BE:

BYTE 1 VALUES:

BYTE 2 VALUES:

OPEN ENABLE	==> OE	X = NO ACTION	X = NO ACTION
CLOSE ENABLE	==> CE	O = OPEN	E = ENABLE
ALLOCATE ENABLE	==> AE	C = CLOSE	D = DISABLE
FREE ENABLE	==> FE	A = ALLOCATE	U = UNENABLE
RECALL ENABLE	==> RE	F = FREE	
		R = RECALL	
		BYTE 1 VALUES:	BYTE 2 VALUES:
OPEN DISABLE	==> OD	X = NO ACTION	X = NO ACTION
CLOSE DISABLE	==> CD	O = OPEN	E = ENABLE
ALLOCATE DISABLE	==> AD	C = CLOSE	D = DISABLE
FREE DISABLE	==> FD	A = ALLOCATE	U = UNENABLE
RECALL DISABLE	==> RD	F = FREE	
		R = RECALL	
		BYTE 1 VALUES:	BYTE 2 VALUES:
CLOSE UNENABLE	==> CU	X = NO ACTION	X = NO ACTION
ALLOCATE UNENABLE	==> AU	O = OPEN	E = ENABLE
FREE UNENABLE	==> FU	C = CLOSE	D = DISABLE
RECALL UNENABLE	==> RU	A = ALLOCATE	U = UNENABLE
		F = FREE	
		R = RECALL	

IF LAST REQUEST WAS:

THEN WARM START ACTION WILL BE:

## CICS STARTUP CONSIDERATIONS

READONLY	==> RO	XX = NO ACTION
UPDATE	==> UP	RO = READONLY
		UP = UPDATE

**DESIRED RESTART STATUS (DRS) TUTORIAL - CONTINUED**

With the above warm start options the CAFC FCT entries which were either disabled or unenabled at the termination of the previous CICS session will be set the same way when CICS comes back up. The entries which were enabled will be set enabled. These entries will be open automatically at first access by CICS and allocated if necessary by CAFC at that time.

**WARM START OVERRIDES**

Any specific CAFC FCT entries which you would like to be either allocated or opened or set to any other specific warm start status can be accommodated by simply coding the warm start override on the CAFC Edit Screen for that particular entry.

A typical CAFC PCT warm start options set up would set the enable/disable status of transactions to the same status they held at the end of the previous CICS session. The enabled transactions will be set enabled, and the disabled transactions will be set disabled.

**SAMPLE PCT WARM START OPTIONS****PCT WARM START ACTIONS**

IF LAST REQUEST WAS:		THEN WARM START ACTION WILL BE:
ENABLE	==> E	X = NO ACTION
DISABLE	==> D	E = ENABLE
		D = DISABLE

There are detailed descriptions of the DRS values in the edit screen instructions. There are detailed descriptions of all the warm start controls in the customization options instructions.



## **BATCH-TO-CICS INTERFACE**

The CAFC Batch Interface (B/I) program allows users to issue CAFC and CICS commands to a CICS region, to a DBCTL region and to a VSAM control region from a batch job stream. The B/I program communicates to CICS through (1) a CAFC provided ACT/VTAM LU6.2 connection, (2) a native CICS connection using the External CICS Interface (EXCI), or a direct update to the CAFC table file.

### **ACF/VTAM LU6.2 B/I PROGRAM OVERVIEW**

The Batch Interface program (AFCP2016) runs as a VTAM application. The facility is comprehensive yet efficient. It is completely event driven, and requires no intermediate files nor systems timer interrupts. The Batch Interface facility sends seven types of commands from batch jobstreams to your CICS regions. The commands include: (1) CAFC requests for flat file and DLI database status changes, (2) CAFC requests for transaction status changes, (3) CAFC requests for data set name changes, (4) standard CEMT commands, (5) starts for pseudo-conversational CICS transactions that do (or do not expect) a response, (6) starts for CICS programs via an XCTL or the EXEC facilities (7) userid security information to secure user transactions. Starts for user written transactions that expect responses are handled by an extension to the Batch Interface called the Batch Interface Terminal Processor. The Batch Interface Terminal Processor is an optional installation step.

### **EXCI B/I PROGRAM OVERVIEW**

The CAFC B/I can communicate to CICS to make CAFC request through the CICS EXCI interface. The EXCI interface to CAFC uses CICS version 4.1 or higher. The communication of a batch request from the CAFC B/I program to the CICS region is accomplished through a facility called a CICS PIPE. The multi-region operation (MRO) facility of CICS interregion communication (IRC) facility supports these PIPE requests, and each CICS PIPE maps onto one MRO session. Unless the CICS and B/I programs are running in a sysplex under MVS/ESA 5.1 with the cross-system MRO (XCF/MRO) facility active, the B/I program and the CICS region must be in the same MVS image. Although the CAFC B/I program's use of the external CICS interface does not support the cross-memory access method, it can use the XCF access method provided by XCF/MRO in CICS/ESA 4.1 or above to communicate across MVS images. See the IBM CICS/ESA Intercommunication Guide manual for information about XCF/MRO.

**BATCH-TO-CICS INTERFACE - CONTINUED**

**SELECTING A B/I PROGRAM TYPE LU6.2 VERSES EXCI**

The LU 6.2 connection type should be chosen when:

- The version of CICS is version 3.3 or older or
- The version of CICS is version 4.1 or higher and the B/I program will not execute on the same MVS image as the CICS and MRO/XCF is not active so that the B/I program can connect to the CICS from any MVS image it can execute on or
- The B/I program will execute on an MVS image that is only accessible to the target CICS via the ACF/VTAM network, i.e. via VTAM cross-domain.

The EXCI connection type should be chosen when:

- The version of CICS is version 4.1 or higher and
- The B/I program will execute on the same MVS image as the target CICS regions or
- MRO/XCF is active so that the B/I program can connect to the CICS regions from any MVS image it is likely to execute on.
- You are running a pure TCPIP environment without an ACF/VTAM network.

For information on CICS XCF/MRO see the CICS Intercommunication Guide for the release if CICS you are executing.

The method that the B/I will use to connect to CICS is specified via the AFCS transaction. From the Primary Options Menu select Option 5, Customization Options. From the Customization Option Menu select option 6, Batch Interface. This will retrieve the Batch Interface Customization Option Menu. To specify the LU6.2 connection for communication between the B/I program and CICS, specify option "L" in the connection type field. To specify the EXCI connection for communication between the B/I program and CICS, specify option "E" in the connection type field.

### **CICS REGION STATE CHECKING**

Both the LU6.2 and EXCI B/I programs attempt to establish a session with the target CICS regions. If the target CICS region is active, the on-line portion of CAFC receives the batch requests and performs the requested activities with updates to the CAFC Table File. If the target CICS region's VTAM ACB is not Open (signaling that CICS region is down), the B/I program checks the CICS Region Up indicator (CTLCP) to determine if the region was normally shutdown or if it has crashed. If the region has crashed the Batch Interface program takes the action you have specified in the B/I Customization Options panel. There are three options:

- "C" Continue Batch Interface processing without consideration of the crash indicator, CTLCP. In other words, apply all requests to the CAFC Table File.
- "W" Inform the MVS console operator, if CICS has crashed, and issue a WTOR for "GO or Cancel". If "GO" is replied, the Table File will be updated. If "Cancel" is specified the batch interface will terminate.
- "T" Terminate the Batch Interface step with the return code provided by the user.

If the region was shutdown normally, the Batch Interface program will apply all requests to the CAFC Table File. These updated statuses will be used for the next CAFC Warm-start. If the requests are successfully applied a step return code of '00' will be returned. If the requests were not applied successfully a step return code of '02' will be returned.

**BATCH INTERFACE - CONTINUED****VTAM B/I LU6.2 APPLID REQUIREMENTS**

A VTAM APPLID must be defined in SYS1.VTAMLST to identify the B/I program as an legitimate VTAM application. Each CICS region requires a LUTYPE6.2 TCT entry to identify the Batch Interface program as a "terminal" to CICS. The VTAM Applid of the target CICS is supplied to the Batch Interface by either (1) runtime parameters and or (2) a user written exit program. The CAFC Distribution tape contains the sample exit program, AFCP2BCC, which allow the user to programmatically determine the target CICS VTAM Applid.

**VTAM B/I LU6.2 ACB MODES**

The Batch Interface program can be installed to operate in one of three modes:

- SINGLE VTAM ACB FOR ALL CICS REGIONS
- UNIQUE VTAM ACBS FOR EACH REGION
- MULTIPLE LU NAMES FOR EACH REGION

**SINGLE VTAM ACB FOR ALL CICS REGIONS**

A single VTAM ACB is used to communicate with different CICS regions. In this mode, any batch job invoking the Batch Interface program will have its requests serialized. The batch job must wait for the termination of other concurrently executing Batch Interface jobs that are running on the same CPU. This wait takes place even if the other batch jobsteps are communicating with different target CICS systems. This option often offers a lower Batch Interface performance level than the UNIQUE VTAM ACB and the MULTIPLE LU NAME options.

**UNIQUE VTAM ACBS FOR EACH REGION**

In this mode, a batch interface jobstep, invoking the Batch Interface Program, can communicate with a given CICS region without having to wait for the termination of other concurrently executing Batch Interface jobs which are talking to different CICS regions. Batch Interface requests are serialized, but only for concurrently executing Batch Interface steps that are: (1) running on the same CPU and are (2) communicating with the same CICS VTAM ACB (same target region).

If the MULTIPLE LU NAMES option is activated, requests are not serialized. They are interleaved and processed simultaneously. You will experience optimum Batch Interface Program performance if you have MULTIPLE LU names defined to those regions that are likely to receive batch requests from multiple batch jobs during the same time interval. See the following section entitled, MULTIPLE LU NAMES.

**BATCH INTERFACE - CONTINUED****MULTIPLE LU NAMES FOR EACH REGION**

This option is an extension of the UNIQUE VTAM ACB option described on the previous page. The B/I ACB table (AFCT2016) can be optionally coded with a list of additional logical unit (LU) names to be used by AFCP2016. Before attempting to establish a session with a CICS region, AFCP2016 reads the AFCT2016 table for ACBs that can be used to communicate with the target CICS region. Via enqueues, it searches the eligible LU names until it finds a non-busy LU name. The multiple LUs allow simultaneous sessions between concurrently executing B/I programs and the same CICS region. This allows a high level of multi-processing for batch requests against the same region.

If the end of the LU name list is reached, AFCP2016 waits for a user specified interval of time, and then reprocesses the eligible LU names in the list. After the list is traversed a user specified number of times, AFCP2016 issues a WTO stating that it has not been able to detect a non busy LU name. The Batch Interface will continuously loop through AFCT2016 looking for a non-busy LU name. Each set of iterations through AFCT2016 will produce another WTO. The operator may cancel the B/I job step as necessary.

AFCT2016 MULTIPLE LU NAMES coding example:

AFCM2016 CICSID=XXXXXXXX,BATCHID=(ACB1,ACB2,ACB3),DSN=A.B.C

:  
:  
:

AFCM2016 CICSID=XXXXXXXX,BATCHID=(ACBX,ACBY,ACBZ),DSN=D.E.F,LU0=Y

**VTAM LU6.2 DEFAULT ACB**

The VTAM ACB, used to represent the Batch Interface program, is normally provided in the user generated Batch Interface ACB Association Table, AFCT2016. If the Batch Interface program: (1) cannot find the target CICS region's VTAM APPLID in the ACB table, or (2) the Batch Interface ACB table AFCT2016 does not exist, then by default the Batch Interface program will use the VTAM ACB, "CICSI62".

**BATCH INTERFACE - CONTINUED****B/I REQUEST EXIT AFCP2BCC LU6.2 AND EXCI**

After each CAFC request is read, but before the request is edited and parsed, the B/I Interface Program, LU6.2 and EXCI, invokes an exit program, AFCP2BCC, which can examine and modify the control statement. The exit program can set a return code to indicate that the Batch Interface Program should: (1) process the control statement normally, (2) skip the current control statement and continue with the next statement, or (3) flush the current and all subsequent control statements.

**SIGN-ON PROCESS - VTAM B/I LU6.2 AND EXCI**

After each request is read, the Batch Interface program invokes a Security Exit Program (AFCP2BSX) to determine whether the request is to be processed or disallowed. If the request is allowed by the CAFC's (or a user written) Security Exit Program, an attempt is made to obtain an enqueue on two resources: (1) the resource 'AFCF4000', (the name of the target CICS CAFC Table File), and on (2) the CICS VTAM APPLID receiving the request. For multiple CPU environments these enqueues should be defined to GRS, MSX or to an alternative global resource manager. The 'Qname' is 'AFCF4000', the 'Rname' is 'CICS VTAM applid' of the target CICS. This insures the resources are held across CPU's. After this enqueue is obtained, the Batch Interface attempts to establish a session with the target CICS.

Enqueue Names:

Qname: AFCF4000

Rname: Target CICS's Vtam Applid

If the CICS session is established successfully, LU6.2 B/I program invokes a Sign-on/Sign-off Exit Program (AFCP2SOX). The EXCI B/I does not invoke AFCP2SOX. This user exit point can be used to interface between the external security manager (RACF, ACF2, or Top Secret) and the Batch Interface. At this time, the user can determine whether the Userid and/or Jobname is authorized to this CICS applid and/or transaction. The Batch Interface can then communicate this Sign-On information within the Function Management Header (FMH5) of the transaction request.

**THROUGH A DATA SET**

You can supply a data set containing the appropriate CICS Sign-on information;

**THROUGH THE FMH5 OF THE TRANSACTION**

You can set up the CICS Sign-on information through the CAFC Table File by updating the Batch Interface Customization Options.

**BATCH INTERFACE - CONTINUED****SIGN-ON PROCESS - VTAM B/I LU6.2 and EXCI - CONTINUED**

In either case, the Batch Interface program will pass this Sign-on information to the user exit program, AFCP2SOX (LU6.2 ONLY). If the Exit program permits communication to continue with the target CICS, the B/I interface determines what type of request has been issued: (1) a normal CAFC function, (2) a user defined CEMT request, (3) a request to start a user transaction, (4) a request to run a CICS program (XCTL or EXEC) or (5) an interactive conversation with CICS.

For a normal CAFC function, the LU6.2 Batch Interface communicates the request via an AFCEB/AFCEM transaction code. The AFCEB/AFCEM transid may be changed via the Batch Interface Customization Options Panel.

For a normal CAFC function, the EXCI Batch Interface communicates the request via an AFCEI/AFCEM transaction code. The AFCEI/AFCEM transid may be changed via the Batch Interface Customization Options Panel.

For (1) user defined CEMT requests, or (2) requests to start user transactions or (3) requests to start user conversational transactions, the Batch Interface program passes your request across the link to the target CICS region. After the request is processed, the Batch Interface determines whether another batch request is waiting. If other requests are waiting, they are passed to the user exit, AFCEP2BSX. If the request is allowed to process, the Batch Interface checks if the next request is against the same region. If the request targets the same CICS region, the request is sent across the link. If the next request is targeted for a different CICS region, the Batch Interface once again invokes AFCEP2SOX (LU6.2 only) to perform any necessary clean-up activity. CAFC then establishes a new session with the next target CICS region to receive requests. If a single batch job step communicates requests to more than one CICS region, the requests must include a sign-on for each CICS region.

**BATCH INTERFACE - CONTINUED****SIGN-ON PROCESS - EXCI**

For a complete discussion of EXCI security refer to the appropriate CICS EXCI manual for the proper version of CICS. The CICS EXCI interface uses the CICS IRC to communicate with a CICS region. The the security implications for the CAFC EXCI B/I are identical to any CICS MRO connection. CICS applies security checks in several ways against requests received from the B/I. These checks fall into four areas: (1) MRO logon and connect security performed by DFHIRP, (2) link security performed by the CICS region, (3) user security checking performed by in the CICS application program and (4) surrogate user checking performed by the CICS EXCI in the B/I program address space.

**MRO LOGON AND BIND-TIME SECURITY (specific connections only)**

DFHIRP, the CICS interregion communication program, performs two security checks against users that want to either logon to, or connect to a CICS region (also referred to as bind-time security). This logon security checking applies only to B/I program executions that are utilizing CICS connections that are defined as SPECIFIC connections. The MRO logon security check is not performed for generic connections. The B/I is treated just the same as another CICS region as far as MRO logon and connect (bind-time) security checking is concerned. This means that when the B/I program logs on to the interregion communication program, IRP performs logon and bind-time security checks against the USERID under which the B/I program is running (the batch region's userid). To enable the EXCI B/I program to logon successfully to IRP (that is to connect to the target CICS region) ensure that you have defined the batch region's userid within a user profile in your security system. Once you have defined the batch region's userid to your security system, you can give the batch region the appropriate logon and bind-time authorizations.

**LOGON AUTHORIZATION (specific connections only)**

Authorize the B/I program's userid to the DFHAPPL.AFCP2015 RACF FACILITY class profile(s), with UPDATE authority. If you fail to authorize the B/I program's userid to the DFHAPPL profile of the specific userid, the logon to the IRP will cause the Allocate\_Pipe processing to fail with a RESPONSE(SYSTEM\_ERROR) REASON(IRC\_LOGON\_FAILURE). The subreason field-1 for this logon security check failure will return a decimal 204 (X'CC').



**BATCH INTERFACE - CONTINUED****SIGN-ON PROCESS - EXCI - CONTINUED****BIND-TIME AUTHORIZATION**

Authorize the B/I program's userid to the DFHAPPL.applid RACF FACILITY class profile of the target CICS server region, with READ authority. If you fail to authorize the B/I program's userid to the CICS region's DFHAPPL.applid profile, will cause the Open\_Pipe processing to fail with with a RESPONSE(SYSTEM\_ERROR), REASON(IRC\_CONNECT\_FAILURE). The sub reason field-1 for a bind-time security check failure returns decimal 176 (X'B0'). See the CICS/ESA CICS-RACF Security Guide for information about the MRO logon and bind-time security checks, and for example definitions of RACF DFHAPPL profiles.

**LINK SECURITY**

The target CICS region performs link security checking for CAFC requests received from the B/I program. These security checks cover transaction attach security (when attaching the mirror transaction), and resource and command security checking within the CAFC transaction program, AFCP2015. The link userid, that CICS uses for these security checks, is the B/I program's userid. For these link security checks to process correctly, and not cause security failures, you must ensure that the link userid is authorized to the following resource profiles, as appropriate:

- The profile for the CAFC EXCI transaction (AFCI or the transaction name specified in the system default parameters). This is required for transaction attach security checking.
- The profiles for all of the resources accessed by the CAFC EXCI transaction and programs. e.g. files, queues (transient data and temporary storage), programs, etc. This is required for resource security checking.

See the CICS/ESA CICS-RACF Security Guide for information about MRO link security checking.

**USER SECURITY**

The CICS region performs user security checking against the userid passed by the B/I program on a DPL CALL request. This userid is the userid id that is obtained:

From the CAFC master file if specified or  
From the AFCCSSN DDNAME if present or  
From the Jobcard of the B/I program execution JCL.

**BATCH INTERFACE - CONTINUED****SIGN-ON PROCESS - EXCI - CONTINUED**

User security checking is performed only when connections specify ATTACHSEC(IDENTIFY). User security is performed in addition to any link security. For user security, in addition to any authorizations you make for link security, you must also authorize the userid specified on the DPL CALL request.

If you want to run the CAFC EXCI B/I program without any security active, you must specify ATTACHSEC(LOCAL).

**SURROGATE USER CHECKING**

A surrogate user check is performed to verify that the batch region's userid is authorized to issue DPL calls for another user. That is, the batch region's userid is authorized as a surrogate of the userid specified on the DPL\_request call). The CAFC B/I program is subject to surrogate user checking if SURROGCHK=YES (the default) is specified in the EXCI options table, DFHXCOPT. If you specify SURROGCHK=YES (or allow it to default) authorize the B/I program's userid as a surrogate of the userid specified on all DPL\_request calls. This means the B/I program's userid must have READ access to a profile named "userid.DFHEXCI" in the SURROGAT general resource class (where "userid" is the userid specified on the DPL call).

If surrogate user checking is enabled (SURROGCHK=YES), but no userid is specified on the DPL call, no surrogate user check will be performed, because the userid on the DPL call defaults to the batch region's userid. We recommended you have surrogate processing enabled. When surrogate processing is disabled, the userid obtained from the CAFC master file or the AFCCSSN ddname will not require password authorization or checking that the B/I program userid has the authority to submit CAFC request.

If you don't want surrogate user security checking, specify SURROGCHK=NO in the DFHXCOPT options table (note SURROGCHK=YES is the default). Surrogate user checking is useful when the B/I program's userid is the same as the CICS region userid, in which case the link security is bypassed. In this case, a surrogate user check is recommended, because the USERID specified on the DPL call is not an authenticated userid (no password is passed).

**BATCH INTERFACE - CONTINUED**

**SIGN-ON PROCESS - EXCI - CONTINUED**

If the B/I program's userid and the CICS region userid are different, link security checking is enforced. With link security, a non-authenticated userid passed on from a DPL call cannot acquire more authority than allowed by the link security check. It can acquire only the same, or less, authority than allowed by the link security check. For more information about CICS security, see the CICS/ESA CICS-RACF Security Guide.

**B/I LU6.2 SIGNON/OFF EXIT AFCP2SOX**

Since the CICS EXCI connection method utilizes MRO security, not the CESN/CESF signon method, the LU6.2 B/I program security exit, AFCP2SOX, is NOT called for connections made with the CICS EXCI connection method.

**B/I INSTALLATION STEPS ACF/VTAM LU6.2 B/I**

Step 1. DEFINE THE BATCH INTERFACE'S APPLIDS(ACBS) TO VTAM  
Determine whether the single, default B/I VTAM ACB (CICSI62) is acceptable. The default ACB, CICSI62, can be used to meet all of your B/I needs in a low activity, single or multiple CPU environments.

In a very active environment, where many batch jobs may access files shared with CICS, a single ACB may dramatically slow CAFC's response to B/I requests. In active environments, we recommend that you use multiple ACBs to more efficiently support your B/I requests.

In either case one or more APPL statements must be added to SYS1.VTAMLST to define each VTAM APPLID/ACB that may be used by a B/I. The Installation Tape member, CAFVT7A, may be used as a sample. Below is a typical VTAM APPLID statement:

```
CICSI621 VBUILD TYPE=APPL
CICSI621 APPL ACBNAME=CICSI62,AUTH=(ACQ,PASS)
```

where ACBNAME=CICSI62 represents the "domain-unique" default ACB specified in the VTAM ACB of the B/I. CICSI621 represents the "network-unique" APPLID which may be changed to conform to your installation's VTAM naming conventions.

If the APPL statement is filed in SYS1.VTAMLST as a separate member, be aware that the member name is considered a VTAM Node name. It MUST be unique, that is, the member name must not be the same as the APPLID or ACBNAME.

In an Interconnected Network, a separate APPL entry must be defined on each CPU on which the B/I may execute. A "network-unique" VTAM APPLID must be defined for each CPU; however, the ACBNAME= parameter is required to be only "domain-unique". See installation member CAFVT72.

Step 2. UPDATE EACH CICS REGION'S VTAM APPLID  
Add the following VTAM parameter to each CICS region's APPLID as maintained in SYS1.VTAMLST, 'SONSCIP=YES'. If you neglect to add this parameter, you will experience a series of VTAM warning messages and various types of B/I failures. To reinstall the APPLID with the SONSCIP parameter you must varying the APPLID INACTIVE then ACTIVE.

**B/I INSTALLATION STEPS ACF/VTAM LU6.2 B/I - CONTINUED**

Step 2. UPDATE EACH APPLID WITH SONSCIP=YES - CONTINUED

Below is a commonly seen sequence of error messages. VTAM writes these VTAM messages, in response to a B/I request, to the CICS log whenever the SONSCIP=YES parameter is omitted from a region's APPLID definition.

```
DFHZC3424 E 10/01/95 11:12:02 JOBNAME TERMID CSNE SESSION FAILURE SESSION TERMINATED
IMMEDIATELY. (2) (MODULE NAME: DFHZNSP)
DFHZC3437 I 10/01/95 11:12:03 JOBNAME TERMID CSNE NODE CICS1621
ACTION TAKEN: CLSDST ABTASK ABSEND ABRECV SIMLOGON. (1) (MODULE NAME: DFHZNAC)
DFHZC3462 I 10/01/95 11:12:03 JOBNAME TERMID CSNE NODE CICS1621
SESSION TERMINATED. (2) (MODULE NAME: DFHZCLS)
DFHZC2450 E 10/01/95 11:12:03 JOBNAME TERMID CSNE NODE CICS1621
NOT ACTIVATED. VTAM RETURN CODE 1000 (6) (MODULE NAME: DFHZSYX)
DFHZC3437 I 10/01/95 11:12:03 JOBNAME TERMID CSNE NONE CICS1621
ACTION TAKEN: NOCREATE CLSDEST ABTASK ABSEND ABRECV(1) (MODULE NAME: DFHZNAC)
```

Step 3. UPDATE THE TCT OR THE DFHCSD

Update each region's TCT or DFHCSD with the parameters for CAFC's LUTYPE6.2 entry. Member CAFCTCT from the INSTLIB file contains sample entries. The NETNAME= keyword parameter MUST match the network-unique Batch Interface VTAM APPLID (columns 1-8 of the APPL statement). See Step 1.

If a CICS region is likely to receive B/I requests from multiple CPUs, then a separate TCT must be specified for each of those CPUs. Refer to INSTLIB member CAFCTCT2 for a sample that defines two LUTYPE6.2 TCT entries.

If a CICS region is likely to receive simultaneously batch requests from multiple batch jobs, then the Multiple LU name feature should be considered. That is, update AFCT2016 with multiple ACB entries associated with the regions.

Step 4. UPDATE THE CICS REGION'S XLT

XLT processing allows CAFC to will continue processing B/I requests that started before CICS moved into shutdown processing. The XLT entries, provided in INSTLIB member CAFCXLT, allow CAFC to process these requests through certain stages of shutdown. This processing dramatically reduces the amount of time B/I requests are locked out during shutdown. Add the required entries and reassemble the XLT.

**B/I INSTALLATION STEPS ACF/VTAM LU6.2 B/I - CONTINUED**

Step 5.           CONFIRM THAT ISC SUPPORT IS ACTIVE

If ISC=YES is not already present in your DFHSIT parameters, add it. This parameter installs the CICS intercommunication group programs during CICS initialization.

Step 6.           CHECK YOUR CAFC LOADLIB FOR REQUIRED EXIT PROGRAMS

The following default, or user modified, Batch Interface exit programs must be in your CAFC loadlib: AFCP2SOX, AFCP2BCC, AFCP2BSX and AFCP2CCX. If you plan to use the TRAN request, AFCPBTX1 must also be in your CAFC loadlib.

1. OPTIONAL - Modify, assemble and linkedit the CAFC B/I Sign-on/Sign-off exit program, AFCP2SOX, for region unique resource access requirements. The standard exit program is pre-assembled with no security checking and included in the CAFC Loadlib.
2. OPTIONAL - Modify, assemble and linkedit the CAFC B/I Security exit program, AFCP2BSX, for region unique control of individual Batch Interface requests.
3. OPTIONAL - Modify, assemble and link-edit the CAFC B/I Control Card exit, AFCP2BCC, for site-unique control statement examination and modification requirements. The standard exit program is pre-assembled and included in the CAFC Loadlib.
4. OPTIONAL - Modify, assemble and link-edit the CAFC B/I Condition Code exit program, AFCP2CCX, for site unique control of MVS step return codes. The standard exit program is pre-assembled and included in the CAFC Loadlib.
5. OPTIONAL - Modify, assemble and link-edit the CAFC Batch Terminal Processor exit program, AFCPBTX1, to interrogate full screen responses from TRAN requests.

**B/I INSTALLATION STEPS ACF/VTAM LU6.2 B/I - CONTINUED****Step 7.**      OPTIONAL - UPDATE AND REASSEMBLE THE AFCT2016 TABLE

Whether or not you elect to use multiple VTAM ACBs, if you decide to use an ACB other than the default, CICS162, or if you decide to not provide the dd for the CAFC Table file in your B/I JCL, code and assemble the B/I ACB Association Table, AFCT2016. This table has two functions. First it activates dynamic file allocation for the B/I so that it can directly access each of the target regions' ACF4000 Table Files. Second, it determines which ACBs should be used by each B/I job. Once AFCT2016 is assembled, your batch job steps gain direct access to each target CICS region's Table File. The B/I Interface job steps must access the target CAFC Table files for two reasons. First, the Batch Interface must read the target region's B/I processing options, eg wait times, region down processing flags, etc. Second, it must update the status of CICS resources due to batch request changes WHEN THE CICS REGION IS DOWN. This update procedure ensures that CICS region startup and warm start will progress properly.

Use INSTLIB member ASMT2016 as a sample. Assemble and link-edit CAFC's CICS APPLID Association Table, AFCT2016.

**Step 8.**      OPTIONAL STEP - VTAM CROSS DOMAIN RESOURCES

If the B/I is to be used in an Interconnected Network, Cross-Domain Resources must be defined, UNLESS the VTAM DYNAMIC DEFINITION feature is already installed. On the CPU where the target CICS executes, the VTAM APPLIDs representing the B/I programs executing on different CPUs, must be defined as cross-domain resources. Refer to the INSTLIB PDS members CAFVT71C and CAFVT72C for additional VTAM definitions.

**Step 9.**      REVIEW AND UPDATE THE BATCH INTERFACE CUSTOMIZATION OPTIONS

Review the Customization Options chapter, especially panel '20T' which deals with B/I processing options.

**B/I INSTALLATION STEPS EXCI****Step 1. UPDATE THE TCT OR THE DFHCSD**

Update each region's TCT or DFHCSD with the parameters for CAFC's EXCI facility. A sample connection and session definition is provided in the group, CAFCONN1, in the CAFC.R4300.CSDLOAD or CSDLOADS dataset.

**Step 1a DEFINING THE EXCI GENERIC CONNECTION**

Connections between the CAFC EXCI B/I program and a CICS region require connection definitions in the CICS region. Define these using the CONNECTION and the SESSIONS resource definition facilities provided by CICS. The following parameters should be used to define a generic EXCI connection for use by the CAFC B/I program. We recommend you use generic sessions.

```

+-----+
| Connection      : EXCI
| Group           : EXCIGRUP
| Description     ==> CAFC EXCI Generic Connection Definition
| CONNECTION IDENTIFIERS
| Netname        ==>
| INDSys         ==>
| REMOTE ATTRIBUTES
| REMOTESystem   ==>
| REMOTESysnet   ==>
| REMOTENAME     ==>
| CONNECTION PROPERTIES
| ACcessmethod   ==> IRc          Vtam | IRc | INdirect | Xm
| PRotocol       ==> Exci        Appc | Lu61 | Exci
| Conntype       ==> Generic     Generic | Specific
| SInglesess     ==> No          No | Yes
| DATAstream    ==> User        User | 3270 | SCs | STRfield | Lms
| RECORDformat   ==> U           U | Vb
| QUEuelimit     ==> No          No | 0-9999
| OPERATIONAL PROPERTIES
| Autoconnect    ==> No          No | Yes | All
| INService      ==> Yes         Yes | No
| SECURITY
| SEcurityname   ==>
| ATTachsec      ==> Identify    Local | Identify | Verify | Persistent
|                                     | Mixidpe
| BINDPassword   :              PASSWORD NOT SPECIFIED
| BINDSecurity   ==> No          No | Yes
|
| RECOVERY
| PSrecovery     ==> Sysdefault  Sysdefault | None
+-----+

```



**BATCH INTERFACE INSTALLATION STEPS - CONTINUED**

The Attachsec parameter controls whether security checking will be done for the CAFC request submitted through the EXCI interface. Define a generic EXCI session for use by the EXCI B/I program using the following parameters.

**Step 1b    DEFINING THE GENERIC EXCI SESSION**

The following parameters should be used to define the generic EXCI session.

Sessions	:	EXCISESS	
Group	:	EXCIGRUP	
Description	==>	CAFC EXCI Session Definition	
SESSION IDENTIFIERS			
Connection	==>	EXCI	
SESSName	==>		
NETnameq	==>		
Modename	==>		
SESSION PROPERTIES			
Protocol	==>	Exci	Appc   Lu61   Exci
Maximum	==>	000 , 000	0-999
RECEIVEPfx	==>	<	
RECEIVECount	==>	002	1-999
SENDPfx	==>		
SENDCount	==>		0-999
SENDSize	==>	04096	1-30720
RECEIVESize	==>	04096	1-30720
SESSPriority	==>	000	0-255
Transaction	:		
OPERATOR DEFAULTS			
OPERId	:		
OPERPriority	:	000	0-255
OPERRsl	:	0	
OPERSecurity	:	1	
PRESET SECURITY			
USERId	==>		
OPERATIONAL PROPERTIES			
Autoconnect	==>	No	No   Yes   All
INservice	:	Yes	
Buildchain	==>	Yes	Yes   No
USERArealen	==>	000	0-255
IOarealen	==>	04096 , 04096	0-32767
RELreq	==>	No	No   Yes
Discreq	==>	No	No   Yes
NEPclass	==>	000	0-255
RECOVERY			
RECOVOption	==>	Sysdefault	Sysdefault   Clearconv   Releasesess   Uncondrel   None
RECOVNotify	:	None	None   Message   Transaction

**BATCH INTERFACE INSTALLATION STEPS - CONTINUED**Step 1c    DEFINING THE EXCI CONNECTION

The following parameters should be used to define a specific EXCI connection for use by the CAFC B/I program.

```

+-----+
| Connection      : EXCI
| Group           : EXCIGRUP
| Description     ==> CAFC EXCI Specific Connection Definition
| CONNECTION IDENTIFIERS
| Netname         ==> AFCP2016
| INdsys          ==>
| REMOTE ATTRIBUTES
| REMOTESystem    ==>
| REMOTESysnet    ==>
| REMOTENAME      ==>
| CONNECTION PROPERTIES
| AAccessmethod   ==> IRc           Vtam | IRc | INdirect | Xm
| PRotocol        ==> Exci          Appc | Lu61 | Exci
| Conntype        ==> Specific      Generic | Specific
| SInglesess      ==> No            No | Yes
| DAstream        ==> User          User | 3270 | SCs | STRfield | Lms
| RECORDformat    ==> U             U | Vb
| Queuelimit      ==> No            No | 0-9999
| OPERATIONAL PROPERTIES
| Autoconnect     ==> No            No | Yes | All
| INService       ==> Yes           Yes | No
| SECURITY
| Securityname     ==>
| Attachsec       ==> Identify      Local | Identify | Verify | Persistent
|                                     | Mixidpe
| BINDPassword    :                PASSWORD NOT SPECIFIED
| BINDSecurity    ==> No            No | Yes
|
| RECOVERY
| PSrecovery      ==> Sysdefault    Sysdefault | None
+-----+

```

Note: The above Attachsec parameter controls whether security checking will be done for the CAFC requests submitted through the EXCI B/I interface.

**BATCH INTERFACE INSTALLATION STEPS - CONTINUED**Step 1d    DEFINING THE EXCI SESSION

The following parameters should be used to define a specific EXCI session for use by the CAFC B/I program.

Sessions	:	EXCISESS	
Group	:	EXCIGRUP	
Description	==>	CAFC EXCI Session Definition	
SESSION IDENTIFIERS			
Connection	==>	EXCI	
SESSName	==>		
NETnameq	==>		
MOdename	==>		
SESSION PROPERTIES			
Protocol	==>	Exci	Appc   Lu61   Exci
Maximum	==>	000 , 000	0-999
RECEIVEPfx	==>	<	
RECEIVECount	==>	002	1-999
SENDPfx	==>		
SENDCount	==>		0-999
SENDSize	==>	04096	1-30720
RECEIVESize	==>	04096	1-30720
SESSPriority	==>	000	0-255
Transaction	:		
OPERATOR DEFAULTS			
OPERId	:		
OPERPriority	:	000	0-255
OPERRsl	:	0	
OPERSecurity	:	1	
PRESET SECURITY			
USERId	==>		
OPERATIONAL PROPERTIES			
Autoconnect	==>	No	No   Yes   All
INservice	:	Yes	
Buildchain	==>	Yes	Yes   No
USERArealen	==>	000	0-255
IOarealen	==>	00000 , 00000	0-32767
RELreq	==>	No	No   Yes
Discreq	==>	No	No   Yes
NEPclass	==>	000	0-255
RECOVERY			
RECOVOption	==>	Sysdefault	Sysdefault   Clearconv   Releasesess   Uncondrel   None
RECOVNotify	:	None	None   Message   Transaction

**BATCH INTERFACE INSTALLATION STEPS - CONTINUED****Step 2. UPDATING THE CICS EXCI OPTIONS TABLE DFHXCOPT**

The EXCI options table, generated by the DFHXCO macro, enables you to specify a number of parameters that are required by the B/I program's use of the external CICS interface. For more details on the creation of the DFHXCOPT table, see the CICS EXCI Interface manual for the release of CICS you are executing.

Assemble and link-edit the modified DFHXCOPT table into a load library in the STEPLIB concatenation of the job that runs B/I program. Unlike the tables you specify for CICS regions, the DFHXCOPT table cannot be suffixed, and the external CICS interface component loads the first table of this name that it finds in the STEPLIB concatenation.

The following is an example of the DFHXCO table definition.

```

      DFHXCO      TYPE=CSECT,
                  CICSSVC=215,
                  CONFDATA=SHOW,
                  DURETRY=30,
                  GTF=OFF,
                  MSGCASE=MIXED,
                  SURROGCHK=YES, (VALID for TS only)
                  TIMEOUT=0,
                  TRACE=OFF,
                  TRACESIZE=16,
                  TRAP=OFF,
      END          DFHXCOPT
  
```

Add the EXCI Program Library to the B/I Program's JCL, the STEPLIB of the B/I program JCL. The following is an example of a EXCI B/I job stream.

```

//jobcard      JOB    accounting information
//STEP1        EXEC   PGM=AFCP2016
//STEPLIB      DD     DSN=your.cafc.loadlib,DISP=SHR
//* The following DD defines the EXCI Program Library
//              DD     DSN=CICS.SDFHEXCI,DISP=SHR
//SYSPRINT     DD     SYSOUT=*
//SYSIN        DD     *
CICS99P,O,DD,QAFACT01
  
```

**Step 3. CONFIRM THAT IRC SUPPORT IS ACTIVE**

If IRC=YES is not already present in your DFHSIT parameters, add it. This parameter installs the CICS intercommunication group programs during CICS initialization.

**BATCH INTERFACE INSTALLATION STEPS - CONTINUED**

Step 4. MRO REQUIREMENTS FOR ACF2

The EXCI connection needs an ACF2/CICS parameter to tell ACF2 to Use the userid of the batch job instead of the region default id. Below is an example of the parameter to be added on the ACF2PARM DD sysin.

```
MRO      SYSID=CAFC,FORMAT=CICS
```

Step 5. CHECK YOUR CAFC LOADLIB FOR REQUIRED EXIT PROGRAMS

The following default, or user modified, Batch Interface exit programs must be in your CICS loadlib: AFCP2BCC, AFCP2BSX and AFCP2CCX. If you plan to use the TRAN request, AFCPBTX1 must also be in your CICS loadlib.

1. OPTIONAL - Modify, assemble and linkedit the CAFC B/I Security exit program, AFCP2BSX, for region unique control of individual Batch Interface requests.
2. OPTIONAL - Modify, assemble and link-edit the CAFC B/I Control Card exit, AFCP2BCC, for site-unique control statement examination and modification requirements. The standard exit program is pre-assembled and included in the CAFC Loadlib.
3. OPTIONAL - Modify, assemble and link-edit the CAFC B/I Condition Code exit program, AFCP2CCX, for site unique control of MVS step return codes. The standard exit program is pre-assembled and included in the CAFC Loadlib.
4. OPTIONAL - Modify, assemble and link-edit the CAFC Batch Terminal Processor exit program, AFCPBTX1, to interrogate full screen responses from TRAN requests.

**BATCH INTERFACE INSTALLATION STEPS - CONTINUED**

**Step 6. OPTIONAL - UPDATE AND REASSEMBLE THE AFCT2016 TABLE**

If you decide to remove the dd for the CAFC Tablefile from your B/I JCL, code and assemble the B/I ACB Association Table, AFCT2016. This table can hold the dataset name for the AFCF4000 Table Files providing the B/I the ability to dynamically allocate and access each of the target regions' AFCF4000 Table Files. Once AFCT2016 is assembled, your batch job steps gain direct access to each target CICS region's Table File. The B/I Interface job steps must access the target CAFC Table files for two reasons. First, the Batch Interface must read the target region's B/I processing options, eg wait times, region down processing flags, etc. Second, it must update the status of CICS resources due to batch request changes WHEN THE CICS REGION IS DOWN. This update procedure ensures that CICS region startup and warm start will progress properly.

Use INSTLIB member ASMT2016 as a sample. Assemble and link-edit CAFC's CICS APPLID Association Table, AFCT2016.

**Step 7. REVIEW AND UPDATE THE BATCH INTERFACE CUSTOMIZATION OPTIONS**

Review the Customization Options chapter, especially panel '20T' which deals with B/I processing options. Additional information related to the CICS EXCI interface can be found in the following manuals contain information on the installation and use of the EXCI interface.

CICS for MVS/ESA  
External CICS Interface  
Version 4 Release 1  
SC33-1390-01

CICS Transaction Server for OS/390  
CICS External CICS Interface  
Release 1.1  
SC33-1703-00

CICS Transaction Server for OS/390  
CICS Internet and External Interfaces Guide  
Release 1.2  
SC33-1944-00

CICS Transaction Server for OS/390  
CICS External Interfaces Guide  
Release 1.3  
SC33-1944-01

# BATCH-TO-CICS INTERFACE

## B/I EXECUTION JCL AND COMMAND LINE FORMATS

## BATCH INTERFACE JCL

The JCL to invoke a standard execution of the CAFC Batch Interface follows. The hypothetical example below demonstrates B/I requests coming from both 'PARM=' and a SYSIN data set. The Optional - Notes 1-3 explanations begin several pages later.

```
//stepname          EXEC          PGM=AFCP2016,
//                  PARM='c.....c,fffff,tt,n.....n,d.....d'
//STEPLIB          DD          DSN=user.batch.loadlib,DISP=SHR
//                  DD          DSN=ims.reslib,DISP=SHR          (Optional - Note 1)
// * The following DD statement is optional. See Note 2.
//                  DD          DSN=cics.exci.loadlib,disp=shr
//SYSUDUMP          DD          SYSOUT=*
//CAFCTRAC          DD          SYSOUT=*                          (See B/I Trace)
//c.....c          DD          DSN=cafc.tablfile,disp=shr        (Optional - Note 3)
//AFCCSSN           DD          DSN=cafc.cssninfo,disp=shr        (Optional - Note 4)
//SYSIN             DD          *                                (Optional - Note 5)
c.....c,fffff,tt,n.....n,d.....d
.      .      .      .      .
.      .      .      .      .
.      .      .      .      .
c.....c,fffff,tt,n.....n,d.....d
//CAFCPARM          DD          (Optional - Note 6)
    Parm1 ...
    Parm2 ...
```

## B/I REQUEST COMMAND LINE FORMAT

```
c.....c,f...f,tt,n.....n,d.....d
|                                     |
|                                     +---New CAFC Resource Name, eg. 'dsname' field
|                                     |   only required for a dsname change request.
|                                     |
|                                     +---CAFC Resource Name, eg. 'ddname for the FCT file'.
|                                     |
|                               +---CAFC Resource Type, eg. 'DD' FCT DDname.
|                               |
|                         +---CAFC Request, eg. 'DC' disable and close.
|
+---Target CICS APPLID, eg. 'CICSPROD'.
```

**B/I EXECUTION JCL AND COMMAND LINE FORMATS - CONTINUED****B/I TRACE FACILITIES FOR THE BATCH JOB COMPONENTS**

If you experience a failure within the batch job components of the B/I, NETEC's customer support group will likely request a B/I trace that traces activity on the batch job side. There are two command formats to activate the trace:

```
PARM='TRACE=Y,SYSIN'
```

or

```
PARM='TRACE=y,c.....c,fffff,tt,n.....n,d...d'
```

The output of the trace is directed to the SYSOUT data set, CAFCTRAC. This assumes you have added the following CAFCTRAC DD statement to the B/I job step's JCL, '//CAFCTRAC DD SYSOUT=\*'. In the second example above, the word 'TRACE=Y' is simply placed in front of the first CAFC B/I request.

An alternative to using the execute statement to provide trace parameters is to use CAFCPARM SYSIN DD \* statement. This is useful when you must provide multiple parameters. If there are no parameters, the DD statement can be omitted.

**B/I TRACE FACILITIES TO ACTIVATE ON-LINE TRACE**

If you need to trace an individual B/I request, add the proper trace commands to the SYSIN request list. There are three varieties of on-line traces: general debugging, DLI debugging and I/O subsystem debugging. In most cases the general debugging trace should be selected. The traces are activated and deactivated by sandwiching trace commands before and after the request in question. The target CICS region must have access to its own CAFCTRAC output data set.

<u>Trace Command</u>	<u>Trace Action</u>
TRACN	Turn General Debugging Trace ON
TRACF	Turn General Debugging Trace Off
TRDLN	Turn DBCTL Debugging Trace ON
TRDLF	Turn DBCTL Debugging Trace OFF
TRION	Turn I/O Subsystem Trace ON
TRIOF	Turn I/O Subsystem Trace OFF



## BATCH-TO-CICS INTERFACE

**B/I TRACE FACILITIES TO ACTIVATE ON-LINE TRACE - CONTINUED**

The format of the on-line trace command follows:

```
c.....c,t...t
|
|
|
|      |--B/I command to act/deactivate On-line Trace, eg. 'TRACN'
|
|--Target CICS APPLID, eg. 'CICSPRO1'
```

Below is a sample JCL stream containing B/I commands to activate the CAFC on-line general debugging trace for a single request against CAFC Group List STARTUP2.

```
//stepname      EXEC    PGM=AFCP2016,PARM=SYSIN
//STEPLIB        DD     DSN=user.batch.loadlib,DISP=SHR
//SYSUDUMP        DD     SYSOUT=*
/* The data defined by the following DD is
/* NOT available to on-line trace facilities
//CAFCTRAC        DD     SYSOUT=*
//c.....c        DD     DSN=cafc.tablfile,disp=shr
//AFCCSSN         DD     DSN=cafc.cssninfo,disp=shr
//SYSIN           DD     *
CICSPRO1,DC,G,STARTUP1
CICSPRO1,TRACN                      <---(Command to start on-line trace)
CICSPRO1,DC,G,STARTUP2              <---(CAFC Request to be traced)
CICSPRO1,TRACF                      <---(Command to stop on-line trace)
CICSPRO1,DC,A,PAY1
CICSPRO2,DC,G,STARTUP1
//
```

**B/I EXECUTION JCL AND COMMAND LINE FORMATS - CONTINUED****INCREASING THE TIMEOUT VALUE PARM FOR A REQUEST SET**

If you need to increase the timeout value for a set of requests, you must use a sysin data set for your requests. Below is the JCL to invoke the CAFC Batch Interface with a sysin data set and an override timeout value.

```
//stepname      EXEC   PGM=AFCP2016,PARM='SYSIN,TIMEOUT=hhmssth'
```

or

```
//CAFCPARM      DD    *
TIMEOUT=hhmssth
```

**INCREASING THE ENQUEUE WAIT INTERVAL**

In the same fashion, the Multiple LU name enqueue wait interval can be overridden via the LUTIME keyword parameter and the message frequency can be overridden via the LUMSG keyword parameter. The format of these parameters is:

```
PARM='LUTIME=hhmssth,LUMSG=nn'
```

or

```
//CAFCPARM      DD    *
LUMSG=nn
```

**DELAYING THE PRESENTATION OF THE B/I STEP'S RETURN**

A time delay may be invoked by entering the DELAY keyword parameter. The DELAY is executed after the last CAFC request and the return code is zero. The format of the DELAY parameter is:

```
PARM='DELAY=hhmssth'
```

or

```
//CAFCPARM      DD    *
DELAY=nn
```

**B/I EXECUTION JCL AND COMMAND LINE FORMATS - CONTINUED****FORCING USE OF THE DEFAULT ACB**

If you wish to force the B/I program to use the default B/I ACB name to connect to the target CICS regions, use the DEFACB keyword parameter. If this parameter is set to "Y", the B/I will use 'CICS62I' to connect to all

## BATCH-TO-CICS INTERFACE

regions even though specific ACB names have been coded in the B/I Association Table, AFCT2016.

The format of the DEFACB parameter is:

PARM='DEFACB=x'

### **DELAYING THE TERMINATION OF THE VTAM SESSION FOR A LONG RUNNING TRANID**

A time delay for the Batch Terminal Processor(LU0) may be invoked to allow the started user transaction to complete before the VTAM session is terminated.

The format of the TERMDLAY parameter is:

PARM='TERMDLAY=hhmmsssth'

### **SWITCHING CAFC TABLE FILE DSNAME**

A CAFC Table File dsname switch may be invoked by the FREEDSN keyword parameter. If this parameter is set to "Y", the Table File data set name specified in the B/I job step's JCL will be freed and the Table File data set name coded in the AFCT2016 table will be allocated and used by AFCT2016. The format of the FREEDSN is:

PARM='FREEDSN=Y'

### **FORCING DIRECT UPDATES TO THE TABLE FILE WITHOUT USING VTAM**

If you are certain a target CICS regions is down, you feed the 'DIRECT' parameter to CAFC through the PARM=. CAFC will immediately apply the requests for this region to the CAFC Table File. The direct updates are performed without first checking that the CICS region is down. If the region is active and the Table file is already open, the requests to that region will fail with an open error. Subsequent requests to other regions will be processed if the respective CAFC Table files are available. DIRECT is useful if you need to synchronize or override the desired restart status for the next region startup.

The format of the DIRECT parameter is:

PARM='DIRECT=Y'

**B/I EXECUTION JCL AND COMMAND LINE FORMATS - CONTINUED**

**EXCI B/I PROGRAM PARAMETERS**

There are three parameters that may be included in the B/I jobstep execution JCL. These parameters and their description follow.

MODIFYING THE WAIT TIME FOR A EXCI RECEIVE SESSION

This parameter can be used to modify the time that the B/I will wait to acquire an EXCI receive session before attempting to acquire the session again. The time is specified in hh (hours), mm (minutes), ss (seconds), tt (thousandths of a second). All characters of the time must be specified.

The default value is EXCITIME=00003000 (30 seconds).

MODIFYING THE EXCI TIME INTERVAL

This parameter can be used to modify the number of EXCITIME intervals that will be allowed to expire before a message will be issued indicating that the B/I has been waiting for a receive session.

The default value is EXCIMSG=03 (issue a message every 3 intervals of 30 seconds i.e. 90 seconds).

MODIFYING THE BATCH INTERFACE CONNECTION TYPE

This parameter can be used to modify the default connection type. Specify L for LU 6.2 or E for EXCI. The default value is CONNTYPE=L for LU 6.2. CONNTYPE=E for EXCI.

**B/I BATCH INTERFACE JCL AND COMMAND LINE FORMATS - CONTINUED**

**OPTIONAL JCL STATEMENT NOTES**

NOTE 1:    //               DD DSN=ims.reslib,DISP=SHR

If you will be submitting requests to start and stop databases registered to DBCTL you must concatenate the dataset name of your IMS RESLIB on the batch STEPLIB dd statement.

NOTE 2:    '//c.....c   DD DSN=cics.exci.loadlib,DISP=SHR'

If you will be using the EXCI B/I you will need to provide the dataset name of the CICS EXCI loadlib to the batch job.

NOTE 3:    '//c.....c   DD DSN=cafc.tablfile,DISP=SHR'

If (1) the dsname of the target CICS region's CAFC Table File is present in the B/I's job step's JCL, or (2) the dsname is placed in the AFCT2016 Table, then the Customization Option settings for the B/I Timeout value and other related parameters will be read and honored. If the target CICS region is down, and the AFCP2016 job step has access to the target region's CAFC Table File dsname, the B/I program will directly apply the CAFC Request status changes to the CAFC Table File. AFCP2016 updates the affected Table File records as if CICS and CAFC had been active. This eliminates CICS initialization delays and the need to manually apply CAFC requests to the Table File when CICS is restarted. The warmstart value for the resource is automatically updated if required.

NOTE 4:    '//AFCCSSN       DD DSN=cafc.cssninfo,DISP=SHR'

If the AFCCSSN DD statement is included, the LU6.2 B/I program passes the FMH5 sign-on information within the data set to the Sign-on/Sign-off exit program AFCP2SOX. Alternatively, the FMH5 information can be stored in the CAFC VSAM Table File via the Customization Option Panel or it can be omitted totally forcing a sign-on using the userid of the job submitter stored in the RACF Accessor Environment Element (ACEE). B/I requests are subsequently sent only if AFCP2SOX indicates that the sign-on was successful. This support is intended for CICS environments that require a sign-on prior to starting the AFCB transaction.

If the user chooses to communicate with more than one CICS region in the same batch job step and he is providing the sign-on name and password rather than using the ACEE, he must provide a sign-on for each target CICS region. The format of the Sign-on information is:

Position 1- 8: Userid    for the external security manager.

Position 21-28: Password for the external security manager.

**B/I BATCH INTERFACE JCL AND COMMAND LINE FORMATS - CONTINUED**

NOTE 5: ' //SYSIN DD \* '

Multiple CAFC Requests can be performed by placing your B/I requests in a SYSIN data set. The requests are coded in the same manner. To tell AFPCP2016 to process the request from SYSIN instead of PARM, code PARM='SYSIN'. PARM='SYSIN' is the default.

NOTE 6: ' //CAFCPARM DD \* '

Multiple parameters can be provided through the B/I by placing them in the CAFCPARM data set.

**B\I WITH CAFC REQUESTS VIA SYSIN**

```
//stepname      EXEC    PGM=AFPCP2016,PARM=SYSIN
//STEPLIB       DD      DSN=user.batch.loadlib,DISP=SHR
//SYSUDUMP      DD      SYSOUT=*
//CAFCTRAC      DD      SYSOUT=*
//c.....c     DD      DSN=cafc.tablfile,disp=shr  (Optional - Note 1)
//AFCCSSN       DD      DSN=cafc.cssninfo,disp=shr (Optional - Note 2)
//CAFCPARM      DD      *                          (Optional - Note 6)
//SYSIN         DD      *
c.....c,fffff,tt,n.....n,d.....d
.      .      .      .      .
.      .      .      .      .
.      .      .      .      .
c.....c,fffff,tt,n.....n,d.....d
//
```

where

c.....c                   The 1 to 8 byte VTAM Applid of the target CICS region for the CAFC requests.  
fffff                    The 1-5 byte CAFC Function Request Code.

Function Request Codes must be one of the following:\_\_\_\_\_

S	DISPLAY STATUS OF ITEMS
BLANK	EXPAND THE SINGLE ITEM / LIST ALL ITEMS MATCHING THE GENERIC NAME
SAMEDSN	LIST FILES WITH MATCHING DSNAMEs
A	ALLOCATE DATASETS / TDQUEUES
F	FREE DATASETS / TDQUEUES
EF	ENABLE DATASETS / TDQUEUES
DF	DISABLE DATASETS / TDQUEUES
L	LOCK DATASETS / TDQUEUES
U	UNLOCK DATASETS / TDQUEUES
O	OPEN DATASETS / TDQUEUES; START DBDS

# BATCH-TO-CICS INTERFACE

N	UNQUIESCE DATASETS
V	SET DATASETS AVAILABLE
VN	SET DATASETS AVAILABLE & UNQUIESCED
NO	UNQUIESCE & OPEN DATASETS; OPEN TDQUEUES; START DBDS
VO	SET DATASETS AVAILABLE & OPEN; OPEN TDQUEUES; START DBDS
VNO	SET DATASETS AVAILABLE UNQUIESCED & OPEN; OPEN TDQUEUES; START DBDS
UO	UNLOCK & OPEN DATASETS; OPEN TDQUEUES; START DBDS
VUO	SET DATASETS AVAILABLE UNLOCKED & OPEN; OPEN TDQUEUES; START DBDS
VUNO	SET DATASETS AVAIL UNLCKD UNQUIESCED & OPEN; OPEN TDQUEUES; START DBDS
OE	OPEN DATASETS / TDQUEUES; START DBDS; ENABLE TXNS
UOE	UNLOCK & OPEN DATASETS; OPEN TDQUEUES; START DBDS; ENABLE TXNS
NOE	UNQUIESCE & OPEN DATASETS; OPEN TDQUEUES; START DBDS; ENABLE TXNS
UNOE	UNLOCK UNQUIESCE OPEN DATASETS; OPEN TDQUEUES; START DBDS; ENABLE TXNS
C	CLOSE DATASETS / TDQUEUES; STOP DBDS
CE	CLOSE & ENABLE DATASETS / TDQUEUES
Q	QUIESCE DATASETS
X	SET DATASETS UNAVAILABLE
QX	SET DATASETS QUIESCED & UNAVAILABLE
CL	CLOSE & LOCK DATASETS; CLOSE TDQUEUES; STOP DBDS
CQ	CLOSE & QUIESCE DATASETS; CLOSE TDQUEUES; STOP DBDS
CX	SET DATASETS CLOSED & UNAVAILABLE; CLOSE TDQUEUES; STOP DBDS
CQX	SET DATASETS CLOSED QUIESCED UNAVAILABLE; CLOSE TDQUEUES; STOP DBDS
CQL	CLOSE, QUIESCE & LOCK DATASETS; CLOSE TDQUEUES; STOP DBDS
CLX	SET DATASETS CLOSED LOCKED & UNAVAILABLE; CLOSE TDQUEUES; STOP DBDS
CQLX	SET DATASETS CLOSD QUIESCED LOCKD UNAVLABLE; CLOSE TDQUEUES; STOP DBDS
DC	DISABLE TXNS; CLOSE DATASETS / TDQUEUES; STOP DBDS
DCL	DISABLE TXNS; CLOSE & LOCK DATASETS; CLOSE TDQUEUES; STOP DBDS
DCQ	DISABLE TXNS; CLOSE & QUIESCE DATASES; CLOSE TDQUEUES; STOP DBDS



**B/I BATCH INTERFACE JCL AND COMMAND LINE FORMATS - CONTINUED**

DCQL	DISABLE TXNS; CLOSE QUIESCE LOCK DATASETS; CLOSE TDQUEUES; STOP DBDS
FC	FORCE CLOSE DATASETS
R	RECALL DATASETS / TDQUEUES
DBD	DUMP DBDS (PROHIBIT UPDATES ON DBDS)
DBR	RECOVER DBDS (STOP DBDS AND SWITCH LOG)
RO	SET VSAM DATASETS / DBDS TO READ ONLY ACCESS
UP	SET VSAM DATASETS / DBDS TO UPDATE ACCESS
RD	SET DBDS TO READ WITH INTEGRITY ACCESS
EX	SET DBDS TO EXCLUSIVE ACCESS
E	ENABLE TRANSACTIONS
D	DISABLE TRANSACTIONS
NOA	SET DDNAMES TO "NO ALTERNATE" DSNAME AVAILABLE
PRI	SET DDNAMES TO USE "PRIMARY" DSNAME FOR NEXT ALLOCATION
SEC	SET DDNAMES TO USE "SECONDARY" DSNAME FOR NEXT ALLOCATION
INQ	INQUIRE ABOUT ALTERNATE DSNAME SETTING (PRIMARY OR SECONDARY)
EXC	EXCHANGE DSNAME (SWITCH PRIMARY/SECONDARY DSNS) FOR NEXT ALLOCATION
CXO	CLOSE DATASETS; EXCHANGE DSNAME; RE-OPEN DATASETS
ADD	ADD DDNAME OR TXN RECORD
CHG	CHANGE DATASET NAME
COPY	CREATE DDNAME OR TXN RECORD FROM EXISTING RECORD
DEL	DELETE AN APPLICATION LIST, DBDLIST, DDNAME, GROUP OR A TXN RECORD
PURGE	SAME AS DELETE EXCEPT THAT ALL RECORDS CONTAINED IN THE LIST ARE ALSO DELETED. EX - FOR AN APPLICATION LIST, ANY DDNAME(S), DBD NAMES, AND TXN NAMES WOULD ALSO BE DELETED
WAIT	Wait 2 minutes between requests. Wait can also be specified as WAIT=hhmmssstt where hhmmssstt is a user defined amount of time.

\* --- Specify G with request for DLI Global, e.g. CG FOR CLOSE GLOBAL.

tt	The 2 byte CAFC Entry Type code.
----	----------------------------------

BATCH INTERFACE  
JCL AND CAFC FUNCTIONS FORMAT - CONTINUED

The 'tt' Entry Type must be one of the following:

D	Ddname
DD	FCT Ddname
DJ	JOURNAL Ddname

# BATCH-TO-CICS INTERFACE

DI	IGNORE Ddname
DO	OTHER Ddname
DP	DLI DATABASE Ddname
DR	RPL Ddname
DT	DCT Ddname
DU	USER CONTROLLED Ddname
I	DBD Name
A	Application
AR	RPL list
G	Group
T	TXN
SF	RDO Single File
SD	RSO Single DCT
SF	RDO Single Program
SD	RSO Single Map
GF	FCT Items within a RDO Group
GF	DCT Items within a RDO Group
GF	PCT Items within a RDO Group
GF	PPT Items within a RDO Group
GF	MAP Items within a RDO Group
n.....n	The 1 to 8 character CAFC Table entry name upon which you want the CAFC request performed.
d.....d	The 1 to 44 character new data set name (Only needed for CHG Requests and only valid for type D entries).
C	The 1 character Batch Request return code alteration flag in column 72.

The B/I Request return code alteration flag must be one of the following:

I	Ignore return code from CICS, set each to '0' and continue with subsequent requests.
A	Accumulate return code from CICS and continue with subsequent requests. Report highest accumulated return code at end of requests.

**B/I BATCH INTERFACE JCL AND COMMAND LINE FORMATS - CONTINUED****B/I WITH CAFC REQUESTS VIA PARM**

In the following example, JS0400, the CAFC request "DC" is to be communicated to the CICS region identified by the VTAM Applid "CICSPROD". The "DC" disable/close and the subsequent "OE" open/enable requests are to be performed against application "STARTUP1".

```
//jobname      JOB
. . .
//JS0400      EXEC  PGM=AFCP2016,PARM='CICSPROD,DC,A,STARTUP1' <-----
//STEPLIB      DD   DSN=prod.loadlib,DISP=SHR
//SYSUDUMP      DD   SYSOUT=*
//CAFCTRAC      DD   SYSOUT=*
//CICSPROD      DD   DSN=cicsprod.cafc.tablfile,DISP=SHR
//AFCCSSN      DD   DSN=cafc.cssninfo,DISP=SHR --- (optional)
//*
//JS0500      EXEC  PGM=BATCHPG1,COND=(0,LT,JS0400)
//STEPLIB      DD   DSN=prod.loadlib,DISP=SHR
//SYSUDUMP      DD   SYSOUT=*
. . .
//*

//JS0600      EXEC  PGM=BATCHPG2,COND=(0,LT,JS0400)
//STEPLIB      DD   DSN=prod.loadlib,DISP=SHR
//SYSUDUMP      DD   SYSOUT=*
. . .
//*

. . .
//JS1200      EXEC  PGM=AFCP2016,PARM='CICSPROD,OE,A,STARTUP1', <-----
//              COND=(0,LT,JS0400)
//STEPLIB      DD   DSN=prod.loadlib,DISP=SHR
//SYSUDUMP      DD   SYSOUT=*
//CAFCTRAC      DD   SYSOUT=*
//CICSPROD      DD   DSN=cicsprod.cafc.tablfile,DISP=SHR
//AFCCSSN      DD   DSN=cafc.cssninfo,DISP=SHR --- (optional)
```

**B/I BATCH INTERFACE JCL AND COMMAND LINE FORMATS - CONTINUED****B/I CAFC TABLE MAINTENANCE REQUESTS**

The following batch table maintenance requests have been changed to link to the CAFC Extended Table Maintenance Facility program and will request Master authority to execute. See the section on CAFC Extended Table Maintenance Facility for more information and examples of requests that are available for batch and online table maintenance.

ADD REQUEST - FCT ddname

ADD requests use optional parameters following the entry name, {DATA SET NAME}, DATA SET NAME is 44 bytes.

The DDname record defaults are:

Data set type	DD
Data set name	NULLFILE
Disposition	S
Data set type	D
Invoke msg facility	N
Free at close time	Y
Automaitc enable on allocate	Y
Automatic enable on open	Y
Automatic disable on close	Y
Automatic disable on free	Y
Warm start override 1	M
Warm start override 2	M
Warm start override 3	MM

ADD REQUEST - DCT ddname

ADD requests use optional parameters following the entry name, {DSTYPE},{TDTYPE},{DESTID},{DATA SET NAME}, DSTYPE is 2 bytes, TDTYPE is 1 byte, DESTID is 4 bytes and DATA SET NAME is 44 bytes.

TDTYPE(Transient Data Type) values are:

I - Indirect N - Intrapartition R - Remote X - Extrapartition

Example 1 - ADD Request

CICSREG1,ADD,DD,NEWDDN

A new ddname record would be added to the CAFC Table File using the defaults described above.

**B/I BATCH INTERFACE JCL AND COMMAND LINE FORMATS - CONTINUED**

**B/I CAFC TABLE MAINTENANCE REQUESTS - CONTINUED**

Example 2 - ADD Request

```
CICSREG1,ADD,DO,NEWDDN,NTEC.VSAM.CAFC1000.TESTFILE
```

A new ddname record would be added with a data set type of O and a data set name of NTEC.VSAM.CAFC1000.TESTFILE.

Example 3 - ADD Request

```
CICSREG1,ADD,DD,NEWDDN,NTEC.VSAM.CAFC2000.TESTFILE
```

A new ddname record would be added with a data set type of D, record type of 1 and a data set name of NTEC.VSAM.CAFC2000.TESTFILE.

**COPY REQUEST**

The COPY request requires the new copy entry ddname followed by the existing entry ddname and optionally, a data set name.

Example 1 - CICSREG1,COPY,D,OLDDDN,NEWDDN,NTEC.CAFC4200.NEWFILE

Create a new DDname record with the attributes of OLDDDN given a entry name of NEWDDN and a data set name of NTEC.VSAM.CAFC4200.NEWFILE.

Example 2 - CICSREG1,COPY,DT,OLDDDN,NEWDDN,NEWDSNAME,E,DT01

Create a new DDname for an EXTRApartition DCT entry with the attributes of the OLDDDN given an entry name of NEWDDN, a dsname of NEWDSNAME, and a destid of DT01.

**B/I BATCH INTERFACE JCL AND COMMAND LINE FORMATS - CONTINUED****BATCH INTERFACE - CEMT REQUEST**

The Batch Interface Program offers a specific function to start standard CEMT requests from batch job steps. The CEMT request returns CEMT Translator and Executor responses (success or failure) to the initiating batch job step. If the target CICS region is down, (1) the CEMT request is ignored, (2) a Batch Interface condition code is set, and (3) the jobstep is terminated.

CEMT processing limits the returned data to 8,000 bytes. If a CEMT request generates a large amount of response data, e. g. an generic inquiry, the CAFC response may erroneously present a return code of '0', yet errors may have occurred on subsequent responses. This erroneous return code situation may occur if the returned messages exceed the 8,000 byte limit. The response is written to sysprint and to the MVS console log.

Batch Interface input format for CEMT requests:

```
c . . . . . c,CEMT,v . . . . . v
```

where

```
c . . . . . c      The 1 to 8 character VTAM Applid of the CICS
                    on which you want the CEMT request
                    performed.
```

```
CEMT               The 4 byte Function Request Code CEMT
                    representing a CEMT request.
```

```
v . . . . . v      The 1 to 44 character CEMT command you wish
                    to perform, the format of which must follow
                    CEMT command syntax. The Batch Interface
                    supports single CEMT commands with a 44
                    character maximum.
```

Example: CICSTST,CEMT,SET PR(TESTPGM1) NEW

**EXEC, XCTL AND XPGM REQUESTS TO START PROGRAMS****BATCH INTERFACE - EXEC, XCTL and XPGM REQUESTS**

The Batch Interface Program offers specific request types, EXEC, XCTL and XPGM, to execute CICS programs from execution requests in batch job steps. If the target CICS region is down: (1) THE EXEC, XCTL, and XPGM requests are ignored, (2) a Batch Interface condition code is set, and (3) the jobstep is terminated.

**EXEC REQUESTS TO START A CICS PROGRAM**

EXEC requests generate an EXEC CICS LINK PROGRAM from either CAFC's AFCB or AFCI transaction (AFCB is used when the connection type is LU 6.2 and AFCI is used when the connection type is EXCI). The link is synchronous, that is, the AFCB/AFCI transaction WILL WAIT until the user program has completed execution before returning. The execution of a long duration user program may result in a B/I program time-out condition. Check that your B/I time-out value is high enough to allow the user program to complete. The EXEC request provides an optional 45 character CICS COMMAREA to be passed with the EXEC CICS PROGRAM LINK request. The EXEC request also provides the ability to have the AFCB/AFCI transaction work area (TWA) be formatted with user data passed on the request card before EXEC LINK PROGRAM to the user program is issued. If the TWA option is utilized the AFCB or AFCI transaction must have a TWA defined in the transaction definition large enough to hold the TWA size specified in the request. If it does not the CAFC1117 error message will be issued. Place an X in column 72 of the request to continue it to the next card. Continuing to place an X in column 72 of each continued request card can also be used to continue the TWA data. Do not leave any spaces in the request. String all the Commarea, TWA size, and TWA data together separated by commas.

The B/I input format for the EXEC request is:

```
c.....c,EXEC,p.....p,v.....v,nnnnn,X
t.....t
```

where

c.....c	The 1 to 8 character VTAM applid of the target CICS region on which you want to execute the program.
EXEC	Indicates to the B/I that this is an execute program request. The program will be invoked from the AFCB transaction via an EXEC CICS LINK PROGRAM command.
p.....p	The user program name to execute in CICS region c.....c.

## BATCH-TO-CICS INTERFACE

v ... v	The optional COMMAREA to pass to the program. This area will always be passed as a 45-byte area padded with trailing blanks.
nnnnn	This field is only required if TWA data is to be passed. Size of required TWA. This size will be verified against the TWA SIZE specified in the transaction definition to be sure the TWA is the size the user program expects. nnnn can be from 1 to 32760.
t ... t	Optional data to move to the user TWA



**BATCH INTERFACE - EXEC, XCTL, AND XPGM REQUESTS - CONTINUED****XCTL REQUESTS TO START A CICS PROGRAM**

XCTL requests result in CAFC's B/I transaction AFCB or AFCI, indirectly xcontrolling to a user program by starting a secondary transaction, AFCE in the background (Transaction AFCB is used when the connection method is LU 6.2 and AFCI is used when the connection method is EXCI). The AFCE transaction then performs an EXEC CICS XCTL PROGRAM to the user program. The xcontrol is asynchronous and will not cause the AFCB/AFCI transaction to wait for the completion of the user program. The XCTL request provides an optional 45 character CICS COMMAREA to be passed with the EXEC CICS XCTL PROGRAM request. The XCTL request also provides the ability to have the AFCE transaction work area (TWA) be formatted with user data passed on the request card. If the TWA option is utilized, the AFCE transaction must have a TWA defined in the transaction definition large enough to hold the TWA size specified in the request. If it does not, the CAFC1118 error message will be issued.

Place an X in column 72 of the request to continue it to the next card. Continuing to place an X in column 72 of each continued request card can also be used to continue the TWA data. Do not leave any spaces in the request. String all the Commarea, TWASize, and TWA data together separated by commas.

The B/I input format for the XCTL request is:

```
c.....c,XCTL,p.....p,v..... v,nnnnn,X
t.....t
```

where

c.....c	The 1 to 8 character VTAM applid of the target CICS region on which you want to execute the program.
XCTL	Indicates to the B/I that this is an xcontrol program request. The program will execute under the AFCE transaction which will be started asynchronously by the AFCB transaction.
p.....p	The user program name to execute in CICS region c.....c
v ... v	The optional COMMAREA to pass to the program. This area will always be passed as a 45 byte area padded with trailing blanks.
nnnnn	This field is only required if TWA data is to be passed. Size of required TWA. This size will be verified against the TWA SIZE

## BATCH-TO-CICS INTERFACE

specified in the transaction definition to  
be sure the TWA is the size the user program  
expects. nnnn can be from 1 to 32760.  
Optional data to move to the user TWA

t ... t

**BATCH INTERFACE - EXEC, XCTL, AND XPGM REQUESTS - CONTINUED**

XPGM REQUESTS TO START A CICS PROGRAM

XPGM requests generate an EXEC CICS LINK PROGRAM with inputmsg from CAFC's AFCX transaction running on a sequential terminal SEQX. The link is synchronous, that is, the AFCB transaction WILL WAIT until the user program has completed execution before returning. The execution of a long duration user program may result in a B/I program time-out condition. Check that your B/I time-out value is high enough to allow the user program to complete. The XPGM request provides an optional 45 character CICS COMMAREA to be passed with the EXEC CICS PROGRAM LINK request.

To use this request type you must install a sequential terminal in the CICS TCT and provide the name of the terminal to CAFC via the Batch Interface Customization Options. A sample sequential terminal definition is provided in the CAFC Installation library as TCTSEQX. SEQX is the default XPGM terminal id. In addition you must also provide a PCT and PPT definition for the AFCX transaction and its program AFCP2110. If you updated your CICS CSD installation Step 3 you will already have the PCT and PPT definitions.

The B/I input format for the XPGM request is:

c.....c,XPGM,p.....p,v.....v

where

c.....c	The 1 to 8 character VTAM applid of the target CICS region on which you want to execute the program.
XPGM	Indicates to the B/I that this is an execute program request. The program will be invoked from the AFCX transaction via an EXEC CICS LINK PROGRAM command.
p.....p	The user program name to execute in CICS region c.....c.
v ... v	The optional COMMAREA to pass to the program. This area will always be passed as a 45-byte area padded with trailing blanks.

**BATCH INTERFACE - STRT REQUESTS****BATCH INTERFACE - STRT REQUEST**

The B/I can pass a STRT transaction request from a batch job step to start a non-conversational user transaction on a CICS region. The STRT request assumes that no data stream will be returned when the transaction is initiated. The transaction will be started immediately on the requested CICS region via an EXEC CICS START command. You may optionally specify a terminal and a data area with its length. The STRT request cannot be used to start CEMT commands because CEMT requests are conversational. If the target CICS region is down, (1) the STRT request is ignored, (2) the B/I condition code is set and (3) the jobstep terminates. STRT solely is used for transactions that issue a retrieve data command.

The B/I input format for the STRT request is:

```
c.....c,STRT,xxxx,rrrr,ll,v.....v
where
```

c.....c	The 1 to 8 character VTAM applid of the target CICS region on which you want to STRT the transaction.
STRT	Indicates to the B/I that this is a STRT request to run a transaction. CAFC will issue an EXEC CICS START command for the transaction and optionally pass any data area.
xxxx	The 1 to 4-character transaction identifier assigned to the user transaction you wish to start. Do not specify a termid if this transaction is to be executed in the background.
rrrr	The 4 character optional terminal Identifier on which the requested transaction is to be run. If no termid is specified, a separate task will be started. If a transaction does not require communication with a terminal, then none should be specified. When a terminal is required, it must be a local TCT entry.
Ll	The length of the data area, if present, with a maximum of 45 bytes.
v ... v	The optional data area to pass to the transaction.

**BATCH INTERFACE - STRT REQUEST - CONTINUE**

The following is an example of a STRT request for the transaction USER with a 10-byte data area. The transaction will run in the background of the CICS region with an APPLID of CICPROD1. Note that the comma for the missing termid is present in the command stream.

CICPROD1,STRT,USER,,10,10BYTEAREA

**BATCH TERMINAL PROCESSOR - TRAN REQUEST**

**TRAN REQUESTS TO RUN COMPLEX TRANSACTIONS**

The B/I program supports a separate mode called the Batch Terminal Processor - BTP. The BTP TRAN request simulates many of the functions of a user 3270 terminal with a keyboard. The TRAN request is the BTP's method for running complex CICS transactions. From a batch job, the BTP can log on to a CICS region and initiate user transactions with input data streams. For example, many application systems require "start of day" and "end of day" messages and responses to be input to the system. The terminal processor allows CAFC users to automate these procedures in a CAFC batch interface job.

The Batch Terminal Processor appears as an IBM 3270 type terminal. It sends 55 byte 3270 un-formatted input data streams to the target CICS region. The user may include as many separate input streams as he wishes. The TRAN request supports conversational, non conversational and pseudo conversational transactions, The simulated input can be set up to send the appropriate data stream and PF-keys to terminate the conversational transaction.

**BATCH TERMINAL PROCESSOR - TRAN REQUEST - CONTINUED**

TRAN request control cards should be provided in a SYSIN input stream to invoke the Batch Terminal Processor. This implies that all executions of the CAFC Batch Interface, in behalf of the terminal processor, need to specify SYSIN on the PARM card or let it default. See the section on "Parm Card". The control cards are included in the SYSIN data stream. Use the following format beginning in column 1:

```
cccccccc,TRAN,xxxx freeform input
```

where:

cccccccc	is the target APPLID of the CICS region to communicate this transaction to.
TRAN	signifies that this input card is to be processed by the terminal simulator.
xxxx	the 1 to 4 character tranid assigned to the user transaction you wish to run.
freeform input	the character string which will be transmitted to CICS. The first characters should be the transaction code. This may be followed by 51 bytes of data for the transaction. The transaction processor will simulate the transmission of this data string as if the data had been typed in on an unformatted 3270 screen and the enter key had been pressed. If user program requires a specific commarea length, the commarea length may be entered into columns 68-69.
N	place an 'N' in column 71 if the transaction being started does not return back to the batch terminal processor with a response.

**SAMPLE TRANSACTION WITH DATA**

In the example below, the user is sending a single transaction (IICO) to the CICS region with the APPLID of CICS99P. The transaction will include the input data "set system start".

```
CICS99P,TRAN,iico set system start
```

**BATCH TERMINAL PROCESSOR - TRAN REQUEST - CONTINUED****SAMPLE NON-CONVERSATIONAL TRANSACTION WITH DATA**

In the example below, the user is sending a single transaction (IICC) to the CICS system with the APPLID of CICS99P. The transaction will include the input data "set system start". The transaction is not conversational, i.e. it does not return with a response, so the 'N' in column 71 tells the BTM to bypass waiting for a receive for incoming data and immediately terminate.

```
CICS99P,TRAN,iico set system start                                N
```

**SAMPLE CONVERSATIONAL TRANSACTION**

Now, let's look at an example of a conversational transaction.

```
CICS99P,TRAN,abcd allow bank1                                     C
CICS99P,TRAN,allow bank2                                         C
CICS99P,TRAN,allow bank3                                         E
```

In the above example, the user has coded control cards to start the conversational transaction "ABCD" and send in the input string "allow bank1". The parameter string indicates it is a conversational transaction because of the coding of a "C" in column 72 of the input card. Next, the user sends the data string "allow bank2" to the conversational transaction. Again it is a conversational transaction because of the coding of a "C" in column 72 of the input card. The user next codes another input string for the conversational transaction. This data will be sent to the transaction's program. Since the user coded an "E" in column 72 of the input card, this will be interpreted as the last input card the batch terminal processor will deliver to the conversational transaction. The user has the responsibility of ensuring that the last input string on the card is coded with an "E" coded in column 72. This must be present to terminate the conversational transaction.

**SAMPLE CEMT TRANSACTION USING the TRAN REQUEST**

Consider the IBM supplied transaction CEMT. CEMT is a conversational transaction. Once the transaction is executing, it requires a PF3 attention identifier to end the transaction. This PF3 key must be coded on the card representing the last input string.

```
CICS99P,TRAN,cmnt set icv(00000)                                  C
CICS99P,TRAN,*03                                                E
```

The above is an example of the coding to send a PF3 key to the CEMT conversational transaction to end its conversation. The BTM is designed to simulate PF keys 1 thru 24. It interprets the character strings as showed in the following paragraph titled, PROGRAM FUNCTION KEY SIMULATION TABLE, and sends the appropriate PF key.



**BATCH TERMINAL PROCESSOR - TRAN REQUEST - CONTINUED**

NOTE: When using CEMT requests, you must terminate the request with a PF3 key, that is a '\*03'. We recommend that you normally use the B/I's CEMT request in lieu of Batch Terminal Processor's TRAN request. The BTM's TRAN facility severely limits the size of the response returning from the target CICS region. The B/I's response area is 8,000 bytes.

**SAMPLE FULL SCREEN TRANSACTION**

AFCP2LU0 TRAN requests can communicate with "full-screen" CICS applications; however, the appropriate 3270 control characters (e.g. SBA information) must also be included with the transaction data. You must have some knowledge of 3270 data streams to simulate full-screen transactions.

For example, if an application expects a character '1' in Row 7 Column 20 of a screen response, then the transaction data should contain the SBA command (x'11'), the buffer address (x'c7f3' or c'g3'), followed by the character '1'. See the example below along with its hex conversion.

CICS99P,tran,xxxx g31

ccceffd6edcd6eeee4cff

3932997b3915b77770731

Buffer addresses can be determined using the IBM 3270 Information Display System Reference Summary (GX20-1878).

To simulate the sending of a PF key, the user needs to code the appropriate character string beginning in the first column of the input card reserved for "freeform input". The BTM will send the appropriate hex character as an IBM 3270 short read (just the aid byte will be sent) to CICS.

**BATCH TERMINAL PROCESSOR - TRAN REQUEST - CONTINUED****PROGRAM FUNCTION KEY SIMULATION TABLE**

<u>CHARACTER STRING</u>	<u>PF KEY</u>	<u>HEX AID BYTE</u>
*01	PF1	F1
*02	PF2	F2
*03	PF3	F3
*04	PF4	F4
*05	PF5	F5
*06	PF6	F6
*07	PF7	F7
*08	PF8	F8
*09	PF9	F9
*10	PF10	7A
*11	PF11	7B
*12	PF12	7C
*13	PF13	C1
*14	PF14	C2
*15	PF15	C3
*16	PF16	C4
*17	PF17	C5
*18	PF18	C6
*19	PF19	C7
*20	PF20	C8
*21	PF21	C9
*22	PF22	4A
*23	PF23	4B
*24	PF24	4C
*ENTER	ENTER	7D
*PA1	PA1	6C
*PA2	PA2	6E
*PA3	PA3	6B
*CLEAR	CLEAR	6D

**BATCH TERMINAL PROCESSOR INSTALLATION STEPS****SUMMARY OF BATCH TERMINAL PROCESSOR INSTALLATION STEPS**

Insure that the LU6.2 terminal entry has been set up and is functioning properly.

1. Install the LU0 terminal entry in the appropriate CICS region.
2. Define the Batch Interface Terminal Processor APPLID/ACB to VTAM.
3. Optional - Assemble and link the Batch Association Table, AFCT2016 with the ACB name (or list of ACB names) to be used to establish the LU0 session. This step is necessary only if you choose to use multiple ACBs or your single ACB name is something other than the default name of LU0TERM.
4. If a sign-on is desired under RACF, ACF2 or TopSecret follow the detailed instructions in Step 4.

**BATCH TERMINAL PROCESSOR(TRAN) INSTALLATION STEPS**

STEP 1. Add the terminal entry for the LU0 terminal to the CICS Terminal Control Table.

Model terminal definitions are provided in the installation library.

Member: LU0TCT0		LU0 terminal definition below:	
LU0TERM1	DFHTCT	TYPE=TERMINAL,	X
		ACCMETH=VTAM,	X
		BRACKET=NO,	X
		BUFFER=0,	X
		ERRATT=(LASTLINE,INTENSIFY),	X
		FEATURE=(DCKYBD,UCTRAN),	X
		NETNAME=LU0TERM1,	X
		RELREQ=(YES,YES),	X
		TIOAL=128,	X
		TRMIDNT=TLU0,	X
		TRMMODL=2,	X
		TRMSTAT=(TRANSCIVE),	X
		TRMTYPE=3270	

**BATCH TERMINAL PROCESSOR INSTALLATION STEPS - CONTINUED**

STEP 2.           An APPL statement must be added to SYS1.VTAMLST to define the APPL/ACB.

The standard B/I uses the APPL information to establish the LU0 session. The CAFC Installation Tape member, LU0APPL, may be used as an example.

Below is an example VTAM APPLID statement for the LU0:

```
LU0TERM1 VBUILD TYPE=APPL
```

```
LU0TERM1 APPL   ACBNAME=LU0TERM,AUTH=(ACQ,PASS)
```

where,

ACBNAME=LU0TERM represents the "domain-unique" acbname and LU0TERM1 the "network-unique" APPLID.

**BATCH TERMINAL PROCESSOR INSTALLATION STEPS - CONTINUED**

STEP 3. Optional - If MULTIPLE LU NAMES are to be used or if a single ACB other than LU0TERM is to be used to establish the VTAM session with CICS then, the Batch Association Table (AFCT2016) must be assembled to relate the ACB to the appropriate CICS region VTAM applid.

An entry MUST be coded to relate each CICS region to the correct LU0 ACB name which will eventually establish a session with the appropriate LU0 terminal within CICS. The following is an example of the correct coding for a single LU0 entry in the AFCT2016 table:

```

AFCM2016      CICSID=XXXXXXXX,           X
              BATCHID=YYYYYYYYY,        X
              LU0=Y

```

Where

XXXXXXXX is the VTAM applid of the CICS system.

Where

YYYYYYYYY is the VTAM ACBNAME from the LU0 VTAM APPL.  
 LU0=Y is REQUIRED to indicate this definition defines a session for the Batch Terminal LU0 processor.

To improve Batch Interface performance, increase simultaneous processing, you can provide MULTIPLE LU NAMES in the following way:

1. Code a list of values for the BATCHID= parameter. For example,

```

AFCM2016      CICSID=XXXXXXXX,           X
              BATCHID=(luname1,luname2,...), X
              LU0=Y

```

**BATCH TERMINAL PROCESSOR INSTALLATION STEPS - CONTINUED**

STEP 4. If you wish to secure transactions that are initiated under the LU0 Batch Terminal Processor, select the appropriate method below for your specific security system.

**RACF/ACF2**

CAFC will force BTP initiated transactions to executed in CICS under the security profile of the RACF userid of the initiating batch job. This is controlled by a proprietary, NETEC developed method of userid inheritance. To invoke userid inheritance, include the AFSG transaction as the first transaction the list of transactions to be executed through the LU0 interface. All transactions that are to be executed under the security provided by the AFSG transaction, must be a continuous transaction stream. That is, you MUST PLACE a "C" in column 72 of the AFCP2016 control card input. Below is an example of a series of transactions that invoke userid inheritance of the initiating batch job under RACF.

CICS99E,TRAN,AFSG	C (1)
CICS99E,TRAN,CEMT I TAS	C (2)
CICS99E,TRAN,I TAS	C (3)
CICS99E,TRAN,*03	C (4)
CICS99E,TRAN,CESF LOGOFF	E (5)

**NOTES:**

1. The AFSG transaction causes the RACF/ACF2 userid under which the batch job AFCP2016 is currently executing to be signed-on to the CAFC LU0 terminal under CICS.
2. The CEMT transaction is executed on the target CICS region. However, prior to execution, the user's (batch job userid) ability to execute CEMT is verified by RACF.
3. Statements for additional CEMT syntax.
4. The PF Key-3 terminates the CEMT transaction.
5. The CESF transaction signs off the userid that was signed on through the AFSG transaction.
6. Insure you have provided the PCT entry for transaction AFSG with AFCP2SGN as the program name. Also, provide PPT entries for AFCP2SGN, AFCP2SG2, AFCP2SG3, AFCP2SG4 and AFCP2SG5.

**BATCH INTERFACE - API**

The Batch Interface program, AFCP2016, can be linked to from a user written assembly language or COBOL program. The address of the parameter list data, for a batch request, should be passed to AFCP2016 in register 1. The format of the parameter list is identical to standard batch request card input. The return code for the request will be returned to the calling program in register 15. CAFC.R4400.INSTLIB PDS contains a working sample user program in member, AFCPL216. The JCL to assemble AFCPL216 is provided in member, ASMPL216.

**BATCH INTERFACE EXIT SUMMARY**

The CAFC Batch Interface Program, AFCP2016, is an LU6.2 VTAM application. It invokes five, user modifiable, specialized exit programs.

- AFCP2BSX - Security exit program, individual requests
- AFCP2BCC - Control card syntax modification exit program
- AFCP2SOX - Region Sign-on/Sign-off control exit program
- AFCP2CCX - Batch step condition code control exit program
- AFCPBTX1 - Batch Terminal Processor receive data exit program

**AFCP2BSX**

This is an access control exit program that controls whether an individual request to the targeted region should be processed.

**AFCP2BCC**

This is a control exit that allows the program to change the syntax of the Batch Interface control card images before they are processed.

**AFCP2SOX**

This is a Sign-on/Sign-off exit program that controls whether or not a Batch Interface job can communicate with a requested CICS region. This program interfaces with commercial external security manager systems. The program offers workable security checks but the user may easily add additional checks.

**AFCP2CCX**

This is a control exit that allows program logic to set the batch job step condition code. The exit has access to all of the confirmations returning from the target CICS regions.

**AFCPBTX1**

This is a control exit that allows program logic to interrogate responses from a TRAN request. The user's logic may subsequently set the step return code by invoking AFCP2CCX.



### BATCH INTERFACE SIGN-ON/SIGN-OFF EXIT

The CAFC Batch Interface Program, AFCP2016, invokes the default Sign-on/Sign-off Exit AFCP2SOX. This exit program (1) controls all "sign-on" transactions prior to processing the Batch Interface Request, and (2) controls all "sign-off" transactions after the Batch Interface request has been processed.

The exit-program is invoked via an OS "LINK" with Register 1 pointing to a parameter list, mapped by Installation Member "AFCDSOXP". The map includes:

- The pointer to the "SIGN-ON/SIGN-OFF EXIT AREA".
- The pointer to the "Send" text area.
- The pointer to the "Receive" text area.

Refer to Installation Member "AFCDSOXA" for a full description of the "exit area" contents. The data items provided in the "Exit Area" include:

A FUNCTION-IN-PROGRESS flag.

- Exit-Initialization
- Sign-On
- Sign-Off

A REASON-FOR-ENTERING the exit flag.

- Provide input for Sign-On/Sign-Off
- Examine the response from CICS for Sign-On/Sign-Off

A TARGET-CICS-STATUS flag.

- Target CICS is "up"
- Target CICS is "down"
- A Return Code Area. Possible values request that:
- Batch Interface processing continued because the Sign-On/Sign-Off function was successful or bypassed.
- The Batch Interface Request could not be performed because Sign-On was unsuccessful. All subsequent CAFC Batch Interface requests are to be flushed.
- The Batch Interface Program sent the contents of the "Send text area" to the target CICS region and returned the response to the exit-program.
- The Batch Interface Program perform a VTAM "Receive" without first doing a "Send". (Some CICS transactions require multiple "Receives" per "Send".)

**BATCH INTERFACE SIGN-ON/SIGN-OFF EXIT - CONTINUED**

- The Batch Interface Program modified "default" run-time parameters.
- The associated Batch Interface Request be suppressed. Subsequent Batch Interface requests should be unaffected by this request.

Please refer to the INSTLIB member AFCP2SOX. AFCP2SOX contains the source code for a sample CAFC Sign-On/Sign-Off Exit program. Although the intended purpose of this exit is to interact with the Batch Interface Program's Sign-On/Sign-Off function, the potential for expanded function exists. For example, other data passed to the Sign-on/Sign-off exit program includes:

- Batch Interface Request parameters
- VTAM APPLID of the target CICS
- CAFC Request Code
- CAFC Table Entry Type
- CAFC Table Entry Name
- The "new" DSN associated with a "CHG" request
- Jobname of the JOB requesting the Batch Interface Function
- The LU name used to represent the Batch Interface Program

In many installations, this information is sufficient to secure CAFC Batch Interface Requests. The CAFC Installation Tape includes the source code for the Sign-on/Sign-off exit program AFCP2SOX. The sample module on the installation tape includes some logic to handle RACF, ACF2, Top Secret, or no external security recognition.

### **BATCH INTERFACE SECURITY EXIT**

The CAFC Batch Interface Program (AFCP2016) invokes the default Security Exit, AFCP2BSX. This exit is given control for all Batch Interface requests and provides the logic to allow or disallow any request.

This exit program is invoked via an OS "LINK" with Register 1 pointing to a parameter list containing a pointer to the "BATCH INTERFACE SECURITY AREA". The Installation Tape member "AFCDDBISA" describes the "security area" contents.

The major data elements passed to the Batch Interface Security Exit include:

- VTAM APPLID of the target CICS
- CAFC Request Code
- CAFC Table Entry Type
- CAFC Table Entry Name
- Jobname of the JOB requesting the Batch Interface Function
- The "new" DSN associated with a "CHG" request
- Return code (allow or disallow function)

The source code for the standard Batch Interface Security Exit program is provided in the INSTLIB member. Please review it and tailor it to meet your site's security requirements.

### **BATCH INTERFACE CONTROL CARD EXIT**

The CAFC B/I Program (AFCP2016) invokes the Control Card exit program (AFCP2BCC) after a control statement is read, but before the statement is edited or processed. When the exit is invoked, a user written exit program may examine and modify the contents of the B/I request statement thus changing the action to be taken by the B/I Program.

The exit program is invoked via an OS LINK with Register 1 pointing to a parameter list containing a fullword pointer to the B/I request statement image. When the exit receives control, the information in the request statement area has not yet been edited by the Batch Interface Program.

The exit program may set one of three possible return codes to the Batch Interface Program:

- 0 Normal completion; process the control statement.
- 4 Skip processing the current control statement and continue with the next statement.
- 8 Flush the current and all subsequent control statements.

**DYNAMIC CICS APPLID SELECTION EXIT PROGRAM SAMPLE**

The distributed sample of AFCEP2BCC demonstrates the dynamic selection of a new CICS APPLID based on the current CICS APPLID coded in the request statement. The sample exit program extracts from the request statement: (1) the target region CICS APPLID, (2) the CAFC Record Type, and (3) the CAFC item name. Next the program goes to a look-up table macro. If a match occurs on all three, the exit program replaces the CICS APPLID in the B/I request statement with the new APPLID specified in the look-up table. If a match is not found, the request statement is not modified. In either case, a Return Code of zero is set. The JCL to assemble this exit program is supplied in the CAFC INSTLIB PDS as member ASMP2BCC.

**BATCH STEP CONDITION CODE CONTROL EXIT**

The CAFC Batch Interface program (AFCEP2016) invokes the Condition Code exit program (AFCEP2CCX) after all processing is complete and the Batch Interface has determined its return code. The Condition Code exit then has the opportunity to examine and alter the return code to be produced by the Batch Interface.

The exit program is invoked via a standard OS LINK with Register 1 pointing to a parameter list containing a full word pointer to a full word data area containing the binary return code for the Batch Interface. The exit program may set any value into this data area. Interpretation of the resulting condition code in the Batch Interface JCL is the customers responsibility.

The source code for a sample Condition Code exit program (AFCEP2CCX) is provided in INSTLIB. Commented ALC instructions show exactly how to alter the Batch Interface return code.

**BATCH TERMINAL RECEIVE DATA EXIT**

The CAFC Batch Terminal Processor program (AFCP2LU0) invokes the Receive Data exit (AFCPBTX1) after VTAM data has been received. This exit provides the user with the opportunity to inspect the contents of the data received and to set the step completion code if desired.

The exit program is invoked via a standard OS LINK with Register 1 pointing to an area in the following format:

WX1DATAP	Fullword address of the Vtam Data received
WX1DATAI	Fullword length of the Vtam Data received
WX1NSCC	Fullword set by the exit indicating the desired step completion code
WX1RC	Exits Return code (Fullword set as follows):
0	Leave step completion code unchanged
4	Change step completion code to value in WX1NSCC

The source code for a sample Receive Data exit program (AFCPBTX1) is provided in INSTLIB. Commented ALC instructions show exactly how to alter the return code.

The Batch Terminal Processor (AFCP2LU0) always links to load module "AFCPBTX1". It is the user's responsibility to ensure that this exit load module is available at execution time.

## **BATCH EXIT PROGRAM DESIGN HINTS**

### **VTAM I/O ACTIVITY**

The Batch Interface Sign-on/Sign-off Exit must be written to interact with the VTAM activity that CICS schedules on behalf of the transaction invoked. It is the responsibility of the exit program to request the necessary VTAM I/O activity at the appropriate time; e.g. after a message is sent to CICS, all resulting messages from CICS must be "Received" by the exit program. This includes "Non-data" messages in addition to "true data" messages. Please refer to sample member "AFCP2SO2" for example of this situation.

### **MODULE STRUCTURE**

The Batch Interface Program (AFCP2016) always links to load modules named "AFCP2SOX" and "AFCP2BSX". It is the responsibility of the user to ensure that the appropriate Exit load modules are available at execution time. For example, if all of the CAFC-supplied sample Sign-on/Sign-off Exits were to be used and they were link-edited as separate load modules, then the user must make the appropriate one available as a load module named "AFCP2SOX" at run time of AFCP2016. This method can be confusing and error-prone.

Instead, a "Control Stub" could be written to determine which "functional module" should be given control. The result would be a load module with a unique name of "AFCP2SOX" which would route control to the appropriate uniquely named subroutine, CSECT, or load module.

**SAMPLE BATCH INTERFACE ENVIRONMENTS**

**INSTALLATION SAMPLE #1**

Consider the following environment:

- a) single cpu and
- b) single CICS region named CICSP where
- c) default acb name of CICS162 is to be used

```

                                SYS1.VTAMLST  MEMBER=CAFVT7A
BATCH INTERFACE APPLID: CICS1621 VBUILD TYPE=APPL
                        CICS1621 APPL ACBNAME=CICS162,AUTH=(ACQ,PASS)

                                CICSP
TCT ENTRY:                DFHTCT TYPE=SYSTEM,
                        ACCMETH=VTAM,
                        NETNAME=CICS1621, (MUST MATCH LABEL OF APPL)
                        TRMTYPE=LUTYPE62,
                        BUFFER=256,
                        RUSIZE=256,
                        TRMSTAT=TRANCEIVE,
                        FEATURE=SINGLE
  
```

**SAMPLE BATCH INTERFACE ENVIRONMENTS - CONTINUED**

**INSTALLATION SAMPLE #2**

Consider the following environment:

- a) single cpu and
- b) two CICS regions named CICST and CICSP where
- c) default acb name of CICS162 is to be used

	SYS1.VTAMLST MEMBER=CAFVT7A
BATCH INTERFACE APPLID:	CICSI621 VBUILD TYPE=APPL CICSI621 APPL ACBNAME=CICSI62,AUTH=(ACQ,PASS)
	CICST
TCT ENTRY:	DFHTCT TYPE=SYSTEM, ACCMETH=VTAM, NETNAME=CICSI621, (MUST MATCH LABEL OF APPL) TRMTYPE=LUTYPE62, BUFFER=256, RUSIZE=256, TRMSTAT=TRANCEIVE, FEATURE=SINGLE
	CICSP
TCT ENTRY:	DFHTCT TYPE=SYSTEM, ACCMETH=VTAM, NETNAME=CICSI621, (MUST MATCH LABEL OF APPL) TRMTYPE=LUTYPE62, BUFFER=256, RUSIZE=256, TRMSTAT=TRANCEIVE, FEATURE=SINGLE



**SAMPLE BATCH INTERFACE ENVIRONMENTS - CONTINUED****INSTALLATION SAMPLE #3**

Consider the following environment:

- a) two cpus where
- b) batch interface runs from either cpu and
- c) CICS runs ONLY on cpu #1.

```
-----CPU #1 -----
      SYS1.VTAMLST  MEMBER=CAFVT7A

BATCH INTERFACE APPLID: CICS1621 VBUILD TYPE=APPL
                        CICS1621 APPL ACBNAME=CICS162,AUTH=(ACQ,PASS)
                        CICS1622 VBUILD TYPE=CDRSC
                        CICS1622 CDRSC CDRM=cdrmname

                        CICSP
TCT ENTRY:  DFHTCT TYPE=SYSTEM,
            ACCMETH=VTAM,
            NETNAME=CICS1621,  (MUST MATCH LABEL ON APPL)
            TRMTYPE=LUTYPE62,
            BUFFER=256,
            RUSIZE=256,
            TRMSTAT=TRANCEIVE,
            FEATURE=SINGLE
            *
            DFHTCT TYPE=SYSTEM,
            ACCMETH=VTAM,
            NETNAME=CICS1622,  (MUST MATCH LABEL ON APPL)
            TRMTYPE=LUTYPE62,
            BUFFER=256,
            RUSIZE=256,
            TRMSTAT=TRANCEIVE,
            FEATURE=SINGLE
```

```
-----CPU #2 -----
      SYS1.VTAMLST  MEMBER=CAFVT72

BATCH INTERFACE APPLID: CICS1622 VBUILD TYPE=APPL
                        CICS1622 APPL ACBNAME=CICS162,AUTH=(ACQ,PASS)
                        CICSP    VBUILD TYPE=CDRSC
                        CICSP    CDRSC CDRM=cdrmname
```

**SAMPLE BATCH INTERFACE ENVIRONMENTS - CONTINUED****INSTALLATION SAMPLE #4**

Consider the following environment:

- a) two cpus where
- b) batch interface runs from either cpu and
- c) must be able to communicate with cics regions on both cpus.

```

----- CPU #1 -----
      SYS1.VTAMLST  MEMBER=CAFVT7A

BATCH INTERFACE APPLID: CICS1621 VBUILD TYPE=APPL
                        CICS1621 APPL ACBNAME=CICS162,AUTH=(ACQ,PASS)
                        CICS1622 VBUILD TYPE=CDRSC
                        CICS1622 CDRSC CDRM=cdrmname
                        CICST    VBUILD TYPE=CDRSC
                        CICST    CDRSC CDRM=cdrmname

                        CICSP
TCT ENTRY:            DFHTCT TYPE=SYSTEM,
                        ACCMETH=VTAM,
                        NETNAME=CICS1621,  (MUST MATCH LABEL ON APPL)
                        TRMTYPE=LUTYPE62,
                        BUFFER=256,
                        RUSIZE=256,
                        TRMSTAT=TRANCEIVE,
                        FEATURE=SINGLE
                        *
                        DFHTCT TYPE=SYSTEM,
                        ACCMETH=VTAM,
                        NETNAME=CICS1622,  (MUST MATCH LABEL ON APPL)
                        TRMTYPE=LUTYPE62,
                        BUFFER=256,
                        RUSIZE=256,
                        TRMSTAT=TRANCEIVE,
                        FEATURE=SINGLE

```

# BATCH-TO-CICS INTERFACE

## SAMPLE BATCH INTERFACE ENVIRONMENTS - CONTINUED

### INSTALLATION SAMPLE #4 - CONTINUED

```
-----CPU #2-----
      SYS1.VTAMLST  MEMBER=CAFVT72

BATCH INTERFACE APPLID: CICS1622 VBUILD TYPE=APPL
                        CICS1622 APPL ACBNAME=CICS162,AUTH=(ACQ,PASS)
                        CICS1621 VBUILD TYPE=CDRSC
                        CICS1621 CDRSC CDRM=cdrmname
                        CICSP      VBUILD TYPE=CDRSC
                        CICSP      CDRSC CDRM=cdrmname

                        CICST
TCT ENTRY:  DFHTCT TYPE=SYSTEM,
            ACCMETH=VTAM,
            NETNAME=CICS1621,  (MUST MATCH LABEL ON APPL)
            TRMTYPE=LUTYPE62,
            BUFFER=256,
            RUSIZE=256,
            TRMSTAT=TRANCEIVE,
            FEATURE=SINGLE
            *
            DFHTCT TYPE=SYSTEM,
            ACCMETH=VTAM,
            NETNAME=CICS1622,  (MUST MATCH LABEL ON APPL)
            TRMTYPE=LUTYPE62,
            BUFFER=256,
            RUSIZE=256,
            TRMSTAT=TRANCEIVE,
            FEATURE=SINGLE
```

**SAMPLE BATCH INTERFACE ENVIRONMENTS - CONTINUED**

**INSTALLATION SAMPLE #5**

Consider the following environment:

- a) two cpus where
- b) batch interface runs from either cpu
- c) batch interface is to use ACBNAME of CAFC1 to communicate with CICS on CPU1 and
- d) batch interface is to use ACBNAME of CAFC2 to communicate with CICS on CPU2

```

*=+==+==+==+==+==+==+==+==+==+==+==+==+==+==+==+==+==+==+==+==+==+
*          LOGIC USED BY AFCT2016 FOR SELECTION OF ACB NAME          *
*=+==+==+==+==+==+==+==+==+==+==+==+==+==+==+==+==+==+==+==+==+==+
      AFCT2016 REQUEST
      CICS,C,D,TEST0001
      |
      |
      MOVE 'CICSI62' TO VTAM ACB NAME FOR DEFAULT
      |
      LOAD AFCT2016 ACB-CICS NAME TABLE
      |
      WAS LOAD SUCCESSFUL? -----(NO)--GOTO DEFAULT
      |
      SEARCH AFCT2016 FOR CICSID 'CICSA'
      |
      WAS CICSID 'CICSA' FOUND? -----(NO)--GOTO DEFAULT
      |
      MOVE BATCHID TO VTAM ACB NAME
      |
      DEFAULT BRANCH LABEL HERE
      |
      VTAM ESTABLISHES SESSION WITH CICS ON CPU1
      |
      AFC COMMAND PASSED TO AFCT2015 FOR EXECUTION

```

# BATCH-TO-CICS INTERFACE

## SAMPLE BATCH INTERFACE ENVIRONMENTS - CONTINUED

### INSTALLATION SAMPLE #5

```

*=+++++=+
*           EXAMPLE CONVERSATIONS FROM AFCP2016 TO CICS           *
*                                                                 *
*   IN ALL SETUP, APPLIDS FOR VTAM ARE FORMULATED AS FOLLOWS:   *
*   =====                                                     *
*   CAFCTX-WHERE X IS CPU/DOMAIN AND Y IS ACB                     *
*   =====                                                     *
*   REMEMBER THAT ACB'S ARE DOMAIN UNIQUE AND                   *
*   APPLID'S ARE NETWORK UNIQUE.                                 *
*=+++++=+

```

BATCH JOB AFCP2016 ON CPU1 COMMUNICATES WITH CICS ON CPU1

```

AFCP2016 AFC REQUEST CICS,C,D,TEST0001
|
AFCP2016 LOAD AFCT2016
|
AFCT2016 TABLE CICSID=CICSA BATCHID=CAFC1
|
SYS1.VTAMLST APPL=CAFC11 ACB=CAFC1
|
SYS1.VTAMLST APPL=CICSA
|
CICSA TCT TYPE=SYSTEM NETNAME=CAFC11
|
AFCP2015 PERFORM AFC REQUEST C,D,TEST0001
|
AFCP2016 RECEIVE RESPONSE FROM AFC REQUEST

```

## SAMPLE BATCH INTERFACE ENVIRONMENTS - CONTINUED

```
BATCH JOB AFCP2016 ON CPU2 COMMUNICATES WITH CICSA ON CPU1
AFCP2016 REQUEST CICSA,C,D,TEST0001
|
AFCP2016 LOAD AFCT2016
|
AFCT2016 TABLE CPU2 CICSID=CICSA BATCHID=CAFC1
|
SYS1.VTAMLST CPU2 APPL=CAFC21 ACB=CAFC1
|
SYS1.VTAMLST CPU2 CICSA CDRSC=CDRM1
|
SYS1.VTAMLST CPU1 APPL=CICSA
|
CICSA TCT TYPE=SYSTEM NETNAME=CAFC21
|
AFCP2015 CICSA CPU1 PERFORM AFC REQUEST C,D,TEST0001
|
AFCP2016 CPU2 RECEIVE RESPONSE FROM AFC REQUEST
```

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**SAMPLE BATCH INTERFACE ENVIRONMENTS - CONTINUED**

[illegible][illegible][illegible][illegible]

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# BATCH-TO-CICS INTERFACE

## SAMPLE BATCH INTERFACE ENVIRONMENTS - CONTINUED

### INSTALLATION SAMPLE #5

```

*==*==*==*==*==*==*==*==*==*==*==*==*==*==*==*==*==*==*==*==*==*
*
*          ENTRIES FOR AFPC2016 BATCH JOB RUNNING ON CPU2
*
*==*==*==*==*==*==*==*==*==*==*==*==*==*==*==*==*==*==*==*==*==*
+==+==+==+==+==+==+==+==+==+==+==+==+==+==+==+==+==+==+==+==+==+
*          ENTRIES FOR SYS1.VTAMLST ON CPU2-CDRM2
+==+==+==+==+==+==+==+==+==+==+==+==+==+==+==+==+==+==+==+==+==+
CAFC21    VBUILD  TYPE=APPL
CAFC21    APPL    ACBNAME=CAFC1 ,AUTH=( ACQ ,PASS )
CAFC22    VBUILD  TYPE=APPL
CAFC22    APPL    ACBNAME=CAFC2 ,AUTH=( ACQ ,PASS )
CICSA     VBUILD  TYPE=CDRSC
CICSA     CDRSC   CDRM=CDRM1
CICSB     VBUILD  TYPE=APPL
CICSB     APPL    AUTH=( ACQ ,PASS )
CAFC11    VBUILD  TYPE=CDRSC
CAFC11    CDRSC   CDRM=CDRM1
CAFC12    VBUILD  TYPE=CDRSC
CAFC12    CDRSC   CDRM=CDRM1
+==+==+==+==+==+==+==+==+==+==+==+==+==+==+==+==+==+==+==+==+==+
*          ENTRIES FOR CICS B TCT ON CPU2
+==+==+==+==+==+==+==+==+==+==+==+==+==+==+==+==+==+==+==+==+==+
          DFHTCT      TYPE=SYSTEM,                      X
                      ACCMETH=VTAM,                      X
                      NETNAME=CAFC12,                    ( INSTALLATION DEFINED ) X
                      TRMTYPE=LUTYPE62,                  X
                      BUFFER=256,                        X
                      RUSIZE=256,                        X
                      TRMSTAT=TRANSCIVE,                  X
                      FEATURE=SINGLE
          DFHTCT      TYPE=SYSTEM,                      X
                      ACCMETH=VTAM,                      X
                      NETNAME=CAFC22,                    ( INSTALLATION DEFINED ) X
                      TRMTYPE=LUTYPE62,                  X
                      BUFFER=256,                        X
                      RUSIZE=256,                        X
                      TRMSTAT=TRANSCIVE,                  X
                      FEATURE=SINGLE

```



SAMPLE BATCH INTERFACE ENVIRONMENTS - CONTINUED

INSTALLATION SAMPLE #5

```
+=====+
*      ENTRIES FOR AFCP2016 ON CPU2-CDRM2 APPLID TABLE(AFCP2016)      *
+=====+
          AFCM2016      TYPE=INITIAL
          AFCM2016      CICSID=CICSA,                                     *
                        BATCHID=CAFC1
          AFCM2016      CICSID=CICSB,                                     *
                        BATCHID=CAFC2
          AFCM2016      TYPE=FINAL
          END
```

**SAMPLE BATCH INTERFACE ENVIRONMENTS - CONTINUED****INSTALLATION SAMPLE #6**

The RDO definition for the CAFC Batch Interface LUTYPE6.2 feature requires a 'CONNECTION' component and a 'SESSIONS' component. For further details, see Step 3 of the DETAIL INSTALLATION STEPS Chapter, subchapter, UPDATE THE CICS TABLES. These components should be defined as follows. Note that there are minor changes in the parameters based on the sign-on method.

<pre> DEFINE   CONNECTION(name)   GROUP(groupname)   NETNAME(CICSI621)   ACCMETH=VTAM   PROTOCOL=APPC   DATASTREAM(USER)   RECORDFORMAT(U)   AUTOCONNECT(NO)   INSERVICE(YES)   SECURITYNAME()   BINDPASSWORD()   ATTACHSEC(LOCAL) - if NONE   ATTACHSEC(IDENTIFY) - if FMH5   SINGLESESS(Y) </pre>	<pre> DEFINE   SESSIONS(csdname)   GROUP(groupname)   CONNECTION(name)   PROTOCOL=APPC   NEPCLASS(000)   MAXIMUM(00001,00000) - if FMH5   RECEIVEPFX()   RECEIVECOUNT(NO)   SENDPFX()   SENDCOUNT(NO)   SENDSIZE(256)   RECEIVESIZE(256)   OPERID()   OPERPRTY()   OPERRSL()   OPERSEC(01)   USERID()   TRANSACTION()   SESSPRIORITY(255)   AUTOCONNECT(NO)   INSERVICE() always clear this field   BUILDCHAIN(YES)   USERAREALEN(0)   IOAREALEN(00000,00000)   RELREQ(NO)   DISCREQ(NO) </pre>
---	---

NOTE: For more information on defining LUTYPE6.2 entries to RDO see 'Defining Single-Session APPC Terminals', Chapter 3.1 CICS/OS/VS Intercommunication Facilities Guide.

**SUPPORT FOR 3270 DEVICES**

The standard AFCS transaction utilizes CICS's BMS to format its full screen data streams. CAFC offers an alternative transaction, AFCC, for 3270 devices. AFCC provides a quick, simple method for entering CAFC requests without navigating through the standard menu system. Requests pass through normal security processing. The AFSQ transaction offers the same facilities for consoles and other non-3270 devices.

The request format for the AFCC transaction is:

AFCC fffff,tt,n.....n

where:

fffff	The 1 to 5 character CAFC Request code.
S	DISPLAY STATUS OF ITEMS
BLANK	EXPAND THE SINGLE ITEM / LIST ALL ITEMS MATCHING THE GENERIC NAME
SAMEDSN	LIST FILES WITH MATCHING DSNAMEs
A	ALLOCATE DATASETS / TDQUEUES
F	FREE DATASETS / TDQUEUES
EF	ENABLE DATASETS / TDQUEUES
DF	DISABLE DATASETS / TDQUEUES
L	LOCK DATASETS / TDQUEUES
U	UNLOCK DATASETS / TDQUEUES
O	OPEN DATASETS / TDQUEUES; START DBDS
N	UNQUIESCE DATASETS
V	SET DATASETS AVAILABLE
VN	SET DATASETS AVAILABLE & UNQUIESCED
NO	UNQUIESCE & OPEN DATASETS; OPEN TDQUEUES; START DBDS
VO	SET DATASETS AVAILABLE & OPEN; OPEN TDQUEUES; START DBDS
VNO	SET DATASETS AVAILABLE UNQUIESCED & OPEN; OPEN TDQUEUES; START DBDS
UO	UNLOCK & OPEN DATASETS; OPEN TDQUEUES; START DBDS
VUO	SET DATASETS AVAILABLE UNLOCKED & OPEN; OPEN TDQUEUES; START DBDS
VUNO	SET DATASETS AVAIL UNLCKD UNQUIESCED & OPEN; OPEN TDQUEUES; START DBDS
OE	OPEN DATASETS / TDQUEUES; START DBDS; ENABLE TXNS

# OPERATIONAL CONSIDERATIONS

## SUPPORT FOR 3270 DEVICES - CONTINUED

UOE	UNLOCK & OPEN DATASETS; OPEN TDQUEUES; START DBDS; ENABLE TXNS
NOE	UNQUIESCE & OPEN DATASETS; OPEN TDQUEUES; START DBDS; ENABLE TXNS
UNOE	UNLOCK UNQUIESCE OPEN DATASETS; OPEN TDQUEUES; START DBDS; ENABLE TXNS
C	CLOSE DATASETS / TDQUEUES; STOP DBDS
CE	CLOSE & ENABLE DATASETS / TDQUEUES
Q	QUIESCE DATASETS
X	SET DATASETS UNAVAILABLE
QX	SET DATASETS QUIESCED & UNAVAILABLE
CL	CLOSE & LOCK DATASETS; CLOSE TDQUEUES; STOP DBDS
CQ	CLOSE & QUIESCE DATASETS; CLOSE TDQUEUES; STOP DBDS
CX	SET DATASETS CLOSED & UNAVAILABLE; CLOSE TDQUEUES; STOP DBDS
CQX	SET DATASETS CLOSED QUIESCED UNAVAILABLE; CLOSE TDQUEUES; STOP DBDS
CQL	CLOSE, QUIESCE & LOCK DATASETS; CLOSE TDQUEUES; STOP DBDS
CLX	SET DATASETS CLOSED LOCKED & UNAVAILABLE; CLOSE TDQUEUES; STOP DBDS
CQLX	SET DATASETS CLOSD QUIESCED LOCKD UNAVLABLE; CLOSE TDQUEUES; STOP DBDS
DC	DISABLE TXNS; CLOSE DATASETS / TDQUEUES; STOP DBDS
DCL	DISABLE TXNS; CLOSE & LOCK DATASETS; CLOSE TDQUEUES; STOP DBDS
DCQ	DISABLE TXNS; CLOSE & QUIESCE DATASES; CLOSE TDQUEUES; STOP DBDS
DCQL	DISABLE TXNS; CLOSE QUIESCE LOCK DATASETS; CLOSE TDQUEUES; STOP DBDS
FC	FORCE CLOSE DATASETS
R	RECALL DATASETS / TDQUEUES
DBD	DUMP DBDS (PROHIBIT UPDATES ON DBDS)
DBR	RECOVER DBDS (STOP DBDS AND SWITCH LOG)
RO	SET VSAM DATASETS / DBDS TO READ ONLY ACCESS
UP	SET VSAM DATASETS / DBDS TO UPDATE ACCESS
RD	SET DBDS TO READ WITH INTEGRITY ACCESS
EX	SET DBDS TO EXCLUSIVE ACCESS
E	ENABLE TRANSACTIONS
D	DISABLE TRANSACTIONS

## OPERATIONAL CONSIDERATIONS

### SUPPORT FOR 3270 DEVICES - CONTINUED

NOA	SET DDNAMES TO "NO ALTERNATE" DSNAME AVAILABLE
PRI	SET DDNAMES TO USE "PRIMARY" DSNAME FOR NEXT ALLOCATION
SEC	SET DDNAMES TO USE "SECONDARY" DSNAME FOR NEXT ALLOCATION
INQ	INQUIRE ABOUT ALTERNATE DSNAME SETTING (PRIMARY OR SECONDARY)
EXC	EXCHANGE DDNAMES (SWITCH PRIMARY/SECONDARY DSNS) FOR NEXT ALLOCATION
CXO	CLOSE DATASETS; EXCHANGE DDNAMES; RE-OPEN DATASETS

\* Specify G with request for DLI Global (e.g. CG for Close Global)

tt	The 1 character CAFC Table File Entry Type. The type must be one of the following (not required for the SYNCH request):
D	DDname
DD	FCT DDNAMES
DI	IGNORE DDNAMES
DJ	JCT DDNAMES
DO	NON-CICS DDNAMES
DP	PHYSICAL DLI DDNAMES
DR	RPL DDNAMES
DT	DCT DDNAMES
DU	USER EXIT DDNAMES
A	Application List
AR	RPL List
I	DLI DBD List
G	Group List
T	Transaction

n.....n	The 1 to 8 Character CAFC Table Entry name upon which you want the function performed (not required for the SYNCH request).
---------	---

NOTES: If there are more error messages than can be displayed on one screen, the user can page forward and backward. Also, the user can issue additional requests without entering the transaction code AFCC.

The AFCC Transaction cannot be used for requests performed through the OS operators console or a sequential terminal. Use CAFC's AFSQ Transaction for requests from these devices.

## OPERATIONAL CONSIDERATIONS

### SUPPORT FOR NON 3270 DEVICES

CAFC offers an alternative transaction, AFSQ for non-3270 devices such as sequential terminals and operator consoles. AFSQ provides a quick, simple method for entering CAFC requests without navigating through the standard menu system. Requests pass through normal security processing. The AFSQ transaction offers these same facilities for 3270 type devices.

The request format of the AFSQ transaction follows:

AFSQ fffff,tt,n.....n

where:

fffff                      The 1 to 5 character CAFC Request type.

S	DISPLAY STATUS OF ITEMS
BLANK	EXPAND THE SINGLE ITEM / LIST ALL ITEMS MATCHING THE GENERIC NAME
SAMEDSN	LIST FILES WITH MATCHING DSNAMES
A	ALLOCATE DATASETS / TDQUEUES
F	FREE DATASETS / TDQUEUES
EF	ENABLE DATASETS / TDQUEUES
DF	DISABLE DATASETS / TDQUEUES
L	LOCK DATASETS / TDQUEUES
U	UNLOCK DATASETS / TDQUEUES
O	OPEN DATASETS / TDQUEUES; START DBDS
N	UNQUIESCE DATASETS
V	SET DATASETS AVAILABLE
VN	SET DATASETS AVAILABLE & UNQUIESCED
NO	UNQUIESCE & OPEN DATASETS; OPEN TDQUEUES; START DBDS
VO	SET DATASETS AVAILABLE & OPEN; OPEN TDQUEUES; START DBDS
VNO	SET DATASETS AVAILABLE UNQUIESCED & OPEN; OPEN TDQUEUES; START DBDS
UO	UNLOCK & OPEN DATASETS; OPEN TDQUEUES; START DBDS
VUO	SET DATASETS AVAILABLE UNLOCKED & OPEN; OPEN TDQUEUES; START DBDS
VUNO	SET DATASETS AVAIL UNLCKD UNQUIESCED & OPEN; OPEN TDQUEUES; START DBDS
OE	OPEN DATASETS / TDQUEUES; START DBDS; ENABLE TXNS
UOE	UNLOCK & OPEN DATASETS; OPEN TDQUEUES; START DBDS; ENABLE TXNS
NOE	UNQUIESCE & OPEN DATASETS; OPEN TDQUEUES; START DBDS; ENABLE TXNS

# OPERATIONAL CONSIDERATIONS

## SUPPORT FOR NON 3270 DEVICES - CONTINUED

UNOE	UNLOCK UNQUIESCE OPEN DATASETS; OPEN TDQUEUES; START DBDS; ENABLE TXNS
C	CLOSE DATASETS / TDQUEUES; STOP DBDS
CE	CLOSE & ENABLE DATASETS / TDQUEUES
Q	QUIESCE DATASETS
X	SET DATASETS UNAVAILABLE
QX	SET DATASETS QUIESCED & UNAVAILABLE
CL	CLOSE & LOCK DATASETS; CLOSE TDQUEUES; STOP DBDS
CQ	CLOSE & QUIESCE DATASETS; CLOSE TDQUEUES; STOP DBDS
CX	SET DATASETS CLOSED & UNAVAILABLE; CLOSE TDQUEUES; STOP DBDS
CQX	SET DATASETS CLOSED QUIESCED UNAVAILABLE; CLOSE TDQUEUES; STOP DBDS
CQL	CLOSE, QUIESCE & LOCK DATASETS; CLOSE TDQUEUES; STOP DBDS
CLX	SET DATASETS CLOSED LOCKED & UNAVAILABLE; CLOSE TDQUEUES; STOP DBDS
CQLX	SET DATASETS CLOSD QUIESCED LOCKD UNAVLABLE; CLOSE TDQUEUES; STOP DBDS
DC	DISABLE TXNS; CLOSE DATASETS / TDQUEUES; STOP DBDS
DCL	DISABLE TXNS; CLOSE & LOCK DATASETS; CLOSE TDQUEUES; STOP DBDS
DCQ	DISABLE TXNS; CLOSE & QUIESCE DATASES; CLOSE TDQUEUES; STOP DBDS
DCQL	DISABLE TXNS; CLOSE QUIESCE LOCK DATASETS; CLOSE TDQUEUES; STOP DBDS
FC	FORCE CLOSE DATASETS
R	RECALL DATASETS / TDQUEUES
DBD	DUMP DBDS (PROHIBIT UPDATES ON DBDS)
DBR	RECOVER DBDS (STOP DBDS AND SWITCH LOG)
RO	SET VSAM DATASETS / DBDS TO READ ONLY ACCESS
UP	SET VSAM DATASETS / DBDS TO UPDATE ACCESS
RD	SET DBDS TO READ WITH INTEGRITY ACCESS
EX	SET DBDS TO EXCLUSIVE ACCESS
E	ENABLE TRANSACTIONS
D	DISABLE TRANSACTIONS
NOA	SET DDNAMES TO "NO ALTERNATE" DSNAME AVAILABLE
PRI	SET DDNAMES TO USE "PRIMARY" DSNAME FOR NEXT ALLOCATION
SEC	SET DDNAMES TO USE "SECONDARY" DSNAME FOR NEXT ALLOCATION

# OPERATIONAL CONSIDERATIONS

## SUPPORT FOR NON 3270 DEVICES - CONTINUED

INQ	INQUIRE ABOUT ALTERNATE DSNAMES SETTING (PRIMARY OR SECONDARY)
EXC	EXCHANGE DSNAMES (SWITCH PRIMARY/SECONDARY DSNAMES) FOR NEXT ALLOCATION
CXO	CLOSE DATASETS; EXCHANGE DSNAMES; RE-OPEN DATASETS

\* Specify G with request for DLI Global (e.g. CG for Close Global)

tt	The 2 character CAFC Table File Entry type. The type must be one of the following (not required for the SYNCH request):
----	--

D	DDname
DD	FCT DDNAMES
DI	IGNORE DDNAMES
DJ	JCT DDNAMES
DO	NON-CICS DDNAMES
DP	PHYSICAL DLI DDNAMES
DR	RPL DDNAMES
DT	DCT DDNAMES
DU	USER EXIT DDNAMES

A	Application List
AR	RPL List
I	DLI DBD List
G	Group List
T	Transaction

n.....n	The 1 to 8 Character CAFC Table Entry name upon which you want the function performed (not required for the SYNCH request).
---------	---

NOTES: If there are error messages, they will be sent by BMS to the console as unformatted text. If the requests came from a sequential terminal, the errors will be sent to the device defined to receive output. The AFSQ user must re-enter the transid AFSQ with each CAFC request.



# OPERATIONAL CONSIDERATIONS

## SEQUENTIAL TERMINAL SETUP AND USAGE

### DFHSG SPECIFICATIONS

DFHSG	PROGRAM=TCP,	X
	ACCMETH=(BSAM,....), ACCESS METHOD SUPPORT	X
	...	
	...	
	DEVICE=(DASD,....), SEQUENTIAL DEVICE SUPPORT	X
	...	
	...	
	EODI=E0, BSAM END OF DATA CHARACTER	X
	...	
	...	
	...	

### TCT ENTRIES

DFHTCT	TYPE=INITIAL,	X
	ACCMETH=(NONVTAM,....),	X
	...	
	...	
	...	

TITLE 'SEQUENTIAL TERMINAL ENTRIES'

```
*****
*           S E Q U E N T I A L   T E R M I N A L S           *
*                                                                 *
* THE FOLLOWING TCT TABLE ENTRIES ARE SUPPLIED IN THE CAFC    *
* INSTALLATION LIBRARY AS MEMBER 'TCTSEQT'.                    *
*****
```

SPACE 3		
DFHTCT	TYPE=SDSCI,	X
	DEVICE=2540,	X
	DSCNAME=SEQTRMIN	
DFHTCT	TYPE=SDSCI,	X
	DEVICE=1403,	X
	DSCNAME=SEQTRMOT	
DFHTCT	TYPE=LINE,	X
	ACCMETH=BSAM,	X
	TRMTYPE=CRLP,	X
	ISADSCN=SEQTRMIN,	X
	OSADSCN=SEQTRMOT,	X
	INAREAL=80	

# OPERATIONAL CONSIDERATIONS

## SEQUENTIAL TERMINAL SETUP AND USAGE - CONTINUED

DFHTCT	TYPE=TERMINAL,	X
	TRMIDNT=SAMA,	X
	LPLEN=80,	X
	ERRATT=NO,	X
	TRMSTAT=TRANSACTION	

### JCL TO ALLOCATE DATA SETS

```
//SEQTALLO      JOB      ( . . . . . ),CICS,CLASS=T,MSGCLASS=A
//JS010         EXEC     PGM=IEFBR14
//DD1           DD      DSN=CICS.TEST.SEQTRMIN,
//              DISP=(NEW,CATLG),
//              UNIT=SYSDA,
//              SPACE=(TRK,(1,1)),
//              DCB=(RECFM=F,LRECL=80,BLKSIZE=80)
// *
//DD2           DD      DSN=CICS.TEST.SEQTRMOT,
//              DISP=(NEW,CATLG),
//              UNIT=SYSDA,
//              SPACE=(TRK,(1,1)),
//              DCB=(RECFM=F,LRECL=133,BLKSIZE=133)
```

# OPERATIONAL CONSIDERATIONS

## SEQUENTIAL TERMINAL SETUP AND USAGE - CONTINUED

### JCL TO BE ADDED TO CICS'S JOBSTREAM

```
//CICSTEST      JOB      ( ..... ),CICS,CLASS=I,MSGCLASS=A
                ...
                ...
//CICS          EXEC      PGM=DFHSIP,PARM=.....
                ...
                ...

//*
//*****
//*
//*
//*          S E Q U E N T I A L      T E R M I N A L S
//*
//*****
//*
//SEQTRMIN      DD      DSN=CICS.TEST.SEQTRMIN,DISP=SHR
//*
//SEQTRMOT      DD      DSN=CICS.TEST.SEQTRMOT,DISP=SHR
                ...
                ...

//*****
//*
//*          P R I N T          S E Q T R M O T          D A T A S E T
//*
//*****
//*
//SEQTRMOT      EXEC      PGM=IEBPTPCH
//SYSPRINT      DD      SYSOUT=*
//SYSUT1        DD      DSN=CICS.TEST.SEQTRMOT,DISP=SHR
//SYSUT2        DD      SYSOUT=*,DCB=BLKSIZE=133
//SYSIN         DD      *
PRINT  MAXFLDS=1
RECORD  FIELD=(132)
```

**OSCOR/VSAM SHARED RESOURCES CONSIDERATIONS**

Always use the DFHFCT TYPE=SHRCTL macro instructions for each VSAM data set. This will reduce the drain on OSCOR. You must code BUFFERS, KEYLEN and STRNO parameters on the SHRCTL macro. DO NOT USE the RSCLMT parameter. If you fail to code the full SHRCTL parameters for the LSR pool(s), CICS can easily miscalculate the proper pool size. This will negatively effect overall CICS performance and even cause file OPEN and CICS startup failures. CAFC makes it so much easier to move files between batch and on-line that you will likely experience OSCOR fragmentation if you continue to use the RSCLMT specification. The fragmentation is due to the increased CLOSE activity. It has nothing to do with CAFC's operations. A common symptom, related to LSR pool size errors, is the CICS message DFH0961.

When you properly code the SHRCTL macro, your regions will benefit four ways: (1) CICS does not have to delay system initialization to calculate LSR pool sizes, (2) you substantially reduce CICS's and CAFC's initialization time overhead (you do not have to allocate every file), (3) you move the normal allocation overhead to transaction execution time and (4) CICS will always have enough buffer space to reopen files that have closed during the CICS session. This is in keeping with CICS 3.x philosophy. If you strive for reliable operations, you must use the SHRCTL macro in all of your production regions.

**MVS/ESA OS/390**

CICS builds (allocates) multiple LSR pools when the first file is accessed in each respective pool. The pools are either built at CICS system initialization time, PLTPI time or when CICS is fully active. The affect on OSCOR is exactly the same. Since the requirements for the resource pool must be known to CICS before the pool (or first data set) is opened, try to use the SHRCTL macro as often as possible. Do not use the RSCLMT parameter.

## OPERATIONAL CONSIDERATIONS

### LINKING TO CAFC'S DYNAMIC ALLOCATION FACILITIES

All CAFC functions should be requested through standard CAFC transactions. If you have a requirement to provide CAFC functions from a non-CAFC program, you can accomplish this through CAFC's on-line API. The user program builds a CAFC function request parmlist and LINKs to AFCD2008. The B/I also offers a documented API for this activity. The Installation Tape includes a DSECT of the parmlist (AFCD2007).

The requesting program must be a command level CICS program. The following fields must be present in the parmlist:

```
AF7REQST --- The 8 byte blank-filled CAFC Request Code.
O          OPEN DATASETS/DLI DBS *
C          CLOSE DATASETS/DLI DBS *
CE         CLOSE AND ENABLE
FC         FORCE CLOSE DATASET
A          ALLOCATE DATASETS/DLI DBS
F          FREE DATASETS/DLI DBS
L          LOCK DATASETS/DLI DBS
U          UNLOCK DATASETS/DLI DBS
D          DISABLE TRANSACTIONS
E          ENABLE TRANSACTIONS
S          STATUS
OE         OPEN DATASETS/DLI DBS AND ENABLE TRANSACTIONS *
DC         DISABLE TRANSACTIONS AND CLOSE DATASETS/DLI DBS *
UO         UNLOCK AND OPEN DATASETS/DLI DBS *
CL         CLOSE AND LOCK DATASETS/DLI DBS *
EF         ENABLE FCT/DCT EXTRAPARTITION/JCT ENTRY
DF         DISABLE FCT/DCT EXTRAPARTITION/JCT ENTRY
RO         SET DLI/VSAM ACCESS TO READ ONLY
UP         SET DLI/VSAM ACCESS TO UPDATE
RD         SET DLI ACCESS TO READ WITH INTEGRITY
EX         SET DLI ACCESS TO EXCLUSIVE
ID         DYNAMIC INSTALL OF A DCT TRANSIENT DATA QUEUE
DBD        DLI "DUMP" *
DBR        DLI "RCVR" *
UOE        ENABLE, OPEN AND UNLOCK
DCL        DISABLE, CLOSE AND LOCK
N          UNQUIESCE DATASETS
V          SET DATASETS AVAILABLE
VN         SET DATASETS AVAILABLE & UNQUIESCED
NO         UNQUIESCE & OPEN DATASETS
VO         SET DATASETS AVAILABLE & OPEN
VNO        SET DATASETS AVAILABLE UNQUIESCED & OPEN
```

# OPERATIONAL CONSIDERATIONS

## LINKING TO CAFC'S DYNAMIC ALLOCATION FACILITIES - CONTINUED

UO	UNLOCK & OPEN DATASET; OPEN TDQUEUES
UNO	UNLOCK, UNQUIESCE & OPEN DATASETS
VUO	SET DATASETS AVAILABLE UNLOCKED & OPEN
VUNO	SET DATASETS AVAILABLE UNLOCKED UNQUIESCED & OPEN
Q	QUIESCE DATASETS
X	SET DATASETS UNAVAILABLE
QX	SET DATASETS QUIESCED & UNAVAILABLE
CL	CLOSE & LOCK DATASET; CLOSE TDQUEUE
CQ	CLOSE & QUIESCE DATASETS
CX	SET DATASETS CLOSED & UNAVAILABLE
CQX	SET DATASETS CLOSED QUIESCED & UNAVAILABLE
CQL	CLOSE, QUIESCE & LOCK DATASETS
CLX	SET DATASETS CLOSED LOCKED & UNAVAILABLE
CQLX	SET DATASETS CLOSED QUIESCED LOCKED & UNAVAILABLE
SYNCH	SYNCHRONIZES TABLE FILE'S FCT DESIRED RESTART TO CURRENT STATUS OF THE CICS FCT.

AF7ENTYP The 1 character CAFC Table File Entry type. The entry type code must be one of the following:

D	DDname
T	CICSTXN
A	Application
I	DBD
G	Group

\* Specify G for DLI Global (e.g. CG for Close Global)

AF7GLOBL The 1 character CAFC Global Request Indicator.

\* Specify G for DLI Global (e.g. CG for Close Global)

AF7ENTNM The 1 to 8 Character CAFC Table Entry name upon which you want the function performed.

On return from AF7P2008 the contents of the remaining fields in the parmlist are as follows:

AF7DATE The date of the request in the form MMDDYY

AF7TIME The time of the request in the form HHMM

AF7REQBY The requestor id in the form 000bTTTT,

where:

000	3 character operid from TCTTE
B	Blank
TTTT	4 character termed

**LINKING TO CAFC'S DYNAMIC ALLOCATION FACILITIES - CONTINUED**

AF7RCODE --- The 1 byte hexadecimal return code,  
where:

0 x'00'	Successful Completion
4 x'04'	Partial Completion
8 x'08'	Complete Failure
12 x'0C'	Invalid Name
16 x'10'	Invalid Request
20 x'14'	Read Error on Table File
24 x'18'	Attach of O/S Subtask Failed
28 x'1C'	O/S Subtask has Abended
29 x'1D'	<a href="#">RLS/@FCT</a> Invalid
32 x'20'	GETMAIN Failure
33 x'21'	Exceeded error message buffer
36 x'24'	Status messages follow
37 x'25'	Status messages follow
38 x'26'	Status messages follow
39 x'27'	Status messages follow
40 x'28'	Entry Online - (Returned on S (status) when all files are allocated to CICS, either Opened or Closed, and all transactions are Enabled for a DDname, an Application or a Group.)
44 x'2C'	Entry Offline - (Returned on S (status) when at least one file is not allocated to CICS or at least one transaction is not Enabled for a DDname, an Application or a Group.)
48 x'30'	Warning messages
52 x'34'	No Action Taken
56 x'38'	DBD name not in DDIR
60 x'3C'	Canceled by user exit
61 x'3D'	No Fcts
62 x'3E'	No pcts
63 x'3F'	No ppts
64 x'40'	No txns
65 x'41'	No maps
66 x'42'	No ppts/maps
67 x'43'	RDO group not found
68 x'44'	No ddns
69 x'45'	RDO resource not found
70 x'46'	No dcts
71 x'47'	RDO expansion exceeds buffer
72 x'48'	No dbds
73 x'49'	DFHEDAP translate error
74 x'50'	CICS resource is remote
75 x'51'	Type = ignore

## OPERATIONAL CONSIDERATIONS

76 x'4c' AF7CP2008 has abended  
80 x'50' Error on Function Command  
84 x'54' CICS is shutting down  
88 x'58' No Generic items  
92 x'5c' Invalid type  
96 x'60' Security violation  
100 x'64' Program not authorized  
104 x'68' Program id error  
108 x'6c' Commarea area length area  
112 x'70' Programabend  
116 x'74' XCTL start failed  
120 x'78' No alternate dsname  
124 x'7c' No primary dsname  
128 x'80' No secondary name  
132 x'84' Mixed dsnames  
136 x'88' Unknown dsnames  
137 x'89' Dsname is allocated  
140 x'8c' Request canceled internally  
144 x'90' Request rejected by CICS

AF7TOTXN Total number of transactions.  
AF7TOTDD Total number of ddnames.  
AF7TOTER Total number of errors.  
AF7TOTMS Total number of error/informational messages in message table. The error and informational messages in the message table are 76 bytes long.  
AF7MSGSA Address of error table.  
AF7STAT Status message indicating the status of the request.  
AF7TYPE2 Secondary Type Field. This is the second byte of the table type. The first byte is stored in the AF7ENTYPE field.



**LINKING TO CAFC'S DYNAMIC ALLOCATION FACILITIES - CONTINUED**

**ON-LINE API CODING HINTS**

AFCP2008 is a command level ALC program. The requesting program must be a Command-Level program and pass the parmlist in a COMMAREA. AFCP2008 performs a 'GETMAIN' for storage to hold error and informational messages each time it is linked to. As AFCP2008 passes the address of the messages back to the requesting program in parmlist field 'AF7MSGSA', the storage is not 'FREEMAINED'. Therefore, after the requesting program has processed the returned messages, the requesting program must free the message area whose address is returned in 'AF7MSGSA'. This will prevent a creeping short on storage situation from occurring. Sample program, AFCP2PLT, in INSTLIB contains sample code that successfully 'FREEMAINS' the 'AF7MSGSA' area.

If you are running CICS Version 3.3 or above, the parmlist AFCD2007 passed to AFCP2008, must be in USERDATAKEY. If the user program, calling AFCP2008, is defined as EXECKEY (USER), its DFHEISTG and all GETMAINS will be obtained in USERDATAKEY. However, if the calling program runs at PLTPI or PLTSD time, CICS will automatically run such programs in EXECKEY(CICS) and the DFHEISTG and all GETMAINS will be performed in CICS DATAKEY, thus causing CAFC program AFCP2008 to fail. To properly obtain storage for AFCD2007 under CICS Version 3.3 and above, follow the coding conventions below.

EXEC	CICS GETMAIN	
	SET(R1)	
	INITIMG(X'40')	
	USERDATAKEY	
	LENGTH(=AL2(AF7PRML1))	
USING	AFCD2007,R1	SET UP ADDRESSIBILITY

## OPERATIONAL CONSIDERATIONS

### IMMEDIATE SHUTDOWN OF CICS

During an IMMEDIATE shutdown of CICS, the PLT programs for CAFC shutdown will be driven. However, once an IMMEDIATE shutdown has been issued, CICS will not allow active transactions to complete nor will allow any new transactions to execute. This means any active, but not completed CAFC activity, will be ungracefully terminated. This will likely cause some of CAFC's warm start flags to be set in error. If you issue an AFCT SHUTDOWN prior to a CEMT SHUT,IMMEDIATE, CAFC will gracefully terminate.

### CLOSING AND OPENING THE CAFC TABLE FILE

If you need to close the ACF4000 Table File while CICS is running, use the enhanced AFCT transaction with the 'SHUTDOWN' operand, eg. 'AFCT SHUTDOWN'. This will deactivate the dynamic allocation intercepts, and allow all other CAFC activity, B/I and on-line, to complete. You may now run batch programs against our file, such as our utilities. B/I job steps will be locked out (direct updates to the CAFC Table File) during this short quiescent period. After you have completed your updates, you may reopen the file by issuing the 'AFCT,START' transaction.

### CEMT TO SHUTDOWN CICS

DO NOT USE the CEMT P SHUT command through the B/I to terminate your CICS regions and their associated VTAM sessions. This will likely remove the VTAM communications before they can be normally terminated. CAFC may not terminate properly. DO USE the CAFC supplied SHUT transaction. The 'SHUT' transaction, through the B/I, will gracefully close and terminate the active CAFC resources and simulate a CEMT P SHUT command.

**EXTENDED CAFC RECORD MAINTENANCE FACILITY**

The Extended Maintenance Facility can be used to alter CAFC records identified by single key, generic key, key list, or key grouping. Commands that can be performed are change, display, create, merge, change\_node, rename, copy, delete, purge, verify, find, migrate, synchronize\_cafc, synchronize\_headers, and synchronize\_rlsflag. The diagram below shows each type of command and the entry types the command can be performed against. For example, the change change can be performed against a ddn(ddname),dbd(database), txn(transaction), appl(application list), group(group list), and the ctl(control record). The change\_node command can only be performed against an individual ddn(ddname) record. All commands are available via batch and online requests. All commands require Master authority to execute.

RECORD TYPE	DDN	DBD	TXN	APPL	RPL	GRP	CTL	PCT	FCT	DCT	DLI	OTR
CHANGE	X	X	X	X		X	X					
DISPLAY	X	X	X	X		X	X					
CREATE	X	X	X	X		X						
MERGE				X		X						
CHANGE_NODE	X											
RENAME	X	X	X	X	X	X						
COPY	X	X	X	X	X	X						
DELETE	X	X	X	X	X	X						
PURGE	X	X	X	X	X	X						
VERIFY	X	X	X	X		X						
FIND	X	X	X	X		X						
MIGRATE								X	X	X		
SYNCHRONIZE_C AFC								X	X	X	X	X
SYNCHRONIZE_HEADERS												
SYNCHRONIZE_RLSFLAG									X			

**EXTENDED CAFC RECORD MAINTENANCE FACILITY - CONTINUED**

Within the extended CAFC maintenance facility there is a help facility that can be called upon to aid in coding the command requests. To request help for a certain command simply type

**HELP WITH(XXXXXXXXXX\_XXX)**

Where (XXXXXXXXXX\_XXX) is the command for which help is being requested.

Example:

To request help on how to enter the create\_ddn command issue

**HELP WITH(CREATE\_DDN)**

A screen will be presented showing how to code the create\_ddn command, examples of create\_ddn commands plus all fields defined for the ddn record.

Below is a table that shows the many commands available in the extended maintenance facility.

*-----	
CREATE_DDN	CREATE DDN RECORDS
CREATE_DBD	CREATE DBD RECORDS
CREATE_TXN	CREATE TXN RECORDS
CREATE_APPL	CREATE APPL RECORDS
CREATE_GROUP	CREATE GROUP RECORDS
*-----	
CHANGE_CTL	CHANGE FIELDS IN THE CONTROL RECORD
CHANGE_DDN	CHANGE FIELDS IN DDN RECORDS
CHANGE_DBD	CHANGE FIELDS IN DBD RECORDS
CHANGE_TXN	CHANGE FIELDS IN TXN RECORDS
CHANGE_APPL	CHANGE FIELDS IN APPL RECORDS
CHANGE_GROUP	CHANGE FIELDS IN GROUP RECORDS
*-----	
<b><u>EXTENDED CAFC RECORD MAINTENANCE FACILITY - CONTINUED</u></b>	
CHANGE_NODE	CHANGE CDTDSN FIELD IN DDN RECORDS
*-----	
RENAME_DDN	RENAME DDN RECORD

# MAINTENANCE AND CONVERSION AIDS

RENAME_DBD	RENAME DBD RECORD
RENAME_TXN	RENAME TXN RECORD
RENAME_APPL	RENAME APPL RECORD
RENAME_RPL	RENAME RPL RECORD
RENAME_GROUP	RENAME GROUP RECORD

\*-----

DELETE_DDN	DELETE DDN RECORDS
DELETE_DBD	DELETE DBD RECORDS
DELETE_TXN	DELETE TXN RECORDS
DELETE_APPL	DELETE APPL RECORDS
PURGE_RPL	DELETE RPL RECORDS
DELETE_GROUP	DELETE GROUP RECORDS

\*-----

COPY_DDN	COPY DDN RECORD TO NEW NAME
COPY_DBD	COPY DBD RECORD TO NEW NAME
COPY_TXN	COPY TXN RECORD TO NEW NAME
COPY_APPL	COPY APPL RECORD TO NEW NAME
COPY_RPL	COPY RPL RECORD TO NEW NAME
COPY_GROUP	COPY GROUP RECORD TO NEW NAME

\*-----

PURGE_DDN	DELETE DDN RECORDS
PURGE_TXN	DELETE TXN RECORDS
PURGE_DBD	DELETE DBD RECORD AND ITS COMPONENT DDN RECORDS
PURGE_APPL	DELETE APPL RECORD AND ITS COMPONENT DDN/TXN/DBD RECORDS
PURGE_RPL	DELETE RPL RECORD AND ITS COMPONENT DDN RECORDS
PURGE_GROUP	DELETE GROUP RECORD AND PURGE ITS COMPONENT APPL RECORDS

\*-----

DISPLAY_CTL	DISPLAY FIELD VALUES FROM THE CONTROL RECORD
DISPLAY_DDN	DISPLAY FIELD VALUES FROM DDN RECORDS
DISPLAY_DBD	DISPLAY FIELD VALUES FROM DBD RECORDS
DISPLAY_TXN	DISPLAY FIELD VALUES FROM TXN RECORDS
DISPLAY_APPL	DISPLAY FIELD VALUES FROM APPL RECORDS
DISPLAY_GROUP	DISPLAY FIELD VALUES FROM GROUP RECORDS

\*-----

FIND_DDN	DISPLAY DDN RECORD WITH FIELDS = SPECIFIED VALUES
FIND_DBD	DISPLAY DBD RECORD WITH FIELDS = SPECIFIED VALUES
FIND_TXN	DISPLAY TXN RECORD WITH FIELDS = SPECIFIED VALUES
FIND_APPL	DISPLAY APPL RECORD WITH FIELDS = SPECIFIED VALUES
FIND_GROUP	DISPLAY GROUP RECORD WITH FIELDS = SPECIFIED VALUES

\*-----

## **EXTENDED CAFC RECORD MAINTENANCE FACILITY - CONTINUED**

VERIFY_DDN	DISPLAY DDN RECORD WITH FIELDS NOT = SPECIFIED VALUES
VERIFY_DBD	DISPLAY DBD RECORD WITH FIELDS NOT = SPECIFIED VALUES
VERIFY_TXN	DISPLAY TXN RECORD WITH FIELDS NOT = SPECIFIED VALUES

## MAINTENANCE AND CONVERSION AIDS

```

VERIFY_APPL      DISPLAY APPL RECORD WITH FIELDS NOT = SPECIFIED VALUES
VERIFY_GROUP     DISPLAY GROUP RECORD WITH FIELDS NOT = SPECIFIED VALUES
*-----
MIGRATE_FCT      CREATE CAFC DDN RECORDS FOR ENTRIES IN DFHFCT
MIGRATE_DCT      CREATE CAFC DDN RECORDS FOR ENTRIES IN DFHDCT
MIGRATE_PCT      CREATE CAFC TXN RECORDS FOR ENTRIES IN DFHPCT
*-----
SYNCHRONIZE_HEADERS  CORRECT CAFC TABLE FILE HEADER RECORDS
SYNCHRONIZE_CAFC     SET CAFC WARM START INDICATORS LIKE CICS TABLES
SYNCHRONIZE_RLSFLAG  SET CDTRLS FIELD TO MATCH CICS FCT ENTRY
*-----

```

All the commands can be performed online from the extended maintenance facility screen or from a batch job. To perform the commands from batch you need to submit the following jcl to execute program AFCP2516. AFCP2516 is a batch interface program just like AFCP2016. So, prior to executing AFCP2516 you must have already performed the basic Batch Interface Installation steps for either LU62 or EXCI. Refer to the section for Batch-To-CICS Interface, Installation Steps. ***If you are using EXCI Specific connections, a separate connection and session must be defined for this facility. The netname for the Extended Maintenance Facility connection should be AFCP2516.***

AFCP2516 is not downward compatible. It can only run against tablefiles that are at modification level 20041001 or higher. All commands require Master authority.

```

//..... JOB, 'BATCH MAINTENANCE',MSGCLASS=X,CLASS=N,
//          MSGLEVEL=(1,1),REGION=3M
//STEP1    EXEC PGM=AFCP2516
//STEPLIB  DD DSN=Your.CAFC4400.loadlib,DISP=SHR
//          DD DSN=CICS.SDFHEXCI,DISP=SHR                <required for EXCI
//AFCFMSGSGS DD DISP=SHR,DSN=Your.CAFC4400.AFCFMSGSGS.file <required
//CICS99P   DD DISP=SHR,DSN=Your.CAFC4400.AFCF0001.tablefile <required
//SYSPRINT  DD SYSOUT=*
//CAFCWTOS  DD SYSOUT=*
//CAFCCTRAC DD SYSOUT=*
//SYSUDUMP  DD SYSOUT=*
//CAFCPARM  DD *
//SYSIN     DD *
...CONTROL CARDS.....

```

### EXTENDED CAFC RECORD MAINTENANCE FACILITY - CONTINUED

## MAINTENANCE AND CONVERSION AIDS

1. AFCFMSGs DD CARD IS REQUIRED
2. MAINTENANCE REQUESTS COME FROM SYSIN ONLY (NOT FROM PARM)  
DUE TO THE FREE FORMAT AND SEPARATE REQUEST TO SET  
THE TARGET CICS.
3. '-' IS USED TO INDICATE CONTINUATION OF REQUEST TO  
NEXT CARD. \* IN COLUMN 1 IS A COMMENT.
4. THE TARGET CICS IS ESTABLISHED BY THE REQUEST:

**SET\_CICS APPLID(XXXXXXXX)**

AND REMAINS IN EFFECT UNTIL CHANGED BY ANOTHER SET\_CICS.

5. OUTPUT RESPONSES ARE ON SYSPRINT.

An example of a single request to create a type=dd ddname record for CICS99P is provided below:

```
SET_CICS APPLID(CICS99P)  
CREATE_DDN KEY(NEWDDN) CDTTYPE(D) CDTDSN(NEW.DDN.DSN) CDTDISP(SHR)
```

Upon completion a new type D (fct ddname) dd entry with DSN=NEW.DDN.DSN, DISP(SHR) will be have been created and added to the CAFC tablefile. The remaining fields required for the creation of the dd entry will be defaulted unless otherwise overridden with parameters on the create\_ddn command.

The following example demonstrates how the SET\_CICS control card is to be used for requests against multiple CICS regions. An example of 2 requests to be performed on one region(CICS99P) and 1 request to be performed on another region(CICS99T) is provided below:

```
SET_CICS APPLID(CICS99P)  
CREATE_DDN KEY(NEWDDN) CDTTYPE(D) CDTDSN(NEW.DDN.DSN) CDTDISP(SHR)  
CREATE_DDN KEY(NEWDDN2) CDTTYPE(D) CDTDSN(NEW.DDN.DSN2) CDTDISP(SHR)  
SET_CICS APPLID(CICS99T)  
CREATE_DDN KEY(NEWDDN) CDTTYPE(D) CDTDSN(NEW.DDN.DSN) CDTDISP(SHR)
```

### EXTENDED CAFC RECORD MAINTENANCE FACILITY - CONTINUED

Some more examples on coding extended table maintenance commands are shown below. Other examples of commands are provided in the HELP documentation

## MAINTENANCE AND CONVERSION AIDS

for each particular command. Simply issue **HELP WITH(XXXXXXXXXX.XXX)** where XXXXXXXXXXXX.XXX is the command you are requesting help with.

Create a ddn record using a model. Model is a single record key value for a model record on which to base the new record. Model is an option parameter, and default values will be used if model is omitted. Note that CDTDISP and CDTDSN (OR CDTSYCLS) are required fields. If they can't be taken from the MODEL then they must be provided as parms.

```
CREATE_DDN KEY(NEWFCT1) MODEL(OLDDDN) CDTA(Y) CDTFREEF(Y) -  
          CDTDSN(NEW.DSNAME)
```

Create a ddn record overriding defaults:

```
CREATE_DDN KEY(NEWFCT1) CDTTYPE(DD) CDTA(Y) CDTFREEF(Y) CDTDISP(S) -  
          CDTDSN(NEW.DSNAME)
```

Below are some examples of how to create transaction entries using the create\_txn command.

Create a txn record using a model:

```
CREATE_TXN KEY(PCT1) MODEL(PCTX) CTTSECCD(1) CTTDRSE(E)
```

Create a txn record altering defaults:

```
CREATE_TXN KEY(PCT1) CTTSECCD(1) CTTDRSO(O)
```

### EXTENDED CAFC RECORD MAINTENANCE FACILITY - CONTINUED

Create a txn record using defaults:



## MAINTENANCE AND CONVERSION AIDS

**CREATE\_TXN KEY(PCT1)**

Below are some examples of how ddnames can be created and then an application list created to contain the ddnames:

```
CREATE_DDN KEY(FCT02) CDTDSN(VSAM.FCT02) -  
          CDTDISP(S) CDTTYPE(D)  
CREATE_DDN KEY(FCT03) CDTDSN(VSAM.FCT03) -  
          CDTDISP(S) CDTTYPE(D)  
CREATE_DDN KEY(FCT05) CDTDSN(VSAM.FCT05) -  
          CDTDISP(S) CDTTYPE(D)  
CREATE_APPL KEY(FCTAPPL) DDNLIST(FCT01 FCT02 FCT05)
```

Below are some examples on creating groups using the create\_group command:

Create a grp record using a model:

```
CREATE_GROUP KEY(NEWGRP1) MODEL(OLDGROUP) AGTSECCD(1) -  
          APLLIST(APPL1,APPL2,APPL3)
```

Create a grp record using defaults:

```
CREATE_GROUP KEY(NEWGRP1) APLLIST(APPL1,APPL2,APPL3)
```

Below are some examples on changing records using the change\_ddn command:

Change two fields in a single ddn record:

```
CHANGE_DDN KEY(MYFCT1) CDTAA(Y) CDTFREEF(Y)
```

### EXTENDED CAFC RECORD MAINTENANCE FACILITY - CONTINUED

Change two fields in two ddn records:

## MAINTENANCE AND CONVERSION AIDS

**CHANGE\_DDN KEY(MYFCT1,MYFCT2) CDTAA(Y) CDTFREEF(Y)**

Change three fields in all ddn records:

**CHANGE\_DDN KEY(\*) CDTAA(Y) CDTFREEF(Y) CDTAEA(N)**

Change three fields in all ddn type T ddn record (DCTS):

**CHANGE\_DDN KEY(\*) TYPE(DT) CDTAA(Y) CDTFREEF(Y) CDTAEA(N)**

Change one field in all ddn records named MYFCT... :

**CHANGE\_DDN KEY(MYFCT\*) CDTAA(Y)**

Change one field in the ddn records listed in APPL MYAPPL1. Notice that it is DDN records being changed as specified in the command CHANGE\_DDN. The target set of ddn records to be changed is the list of ddn record names in CAFC application record named MYAPPL1:

**CHANGE\_DDN KEY(MYAPPL1) TYPE(A) CDTAA(Y)**

### EXTENDED CAFC RECORD MAINTENANCE FACILITY - CONTINUED

Change one field in the ddn records listed in all the APPLS in all the GROUPS named ABC.. AND XYZ..

## MAINTENANCE AND CONVERSION AIDS

Notice that it is ddn records being changed as specified in the command CHANGE\_DDN. The list of ddn records to be changed is generated by expanding all CAFC group records with names beginning with ABC and beginning with XYZ to get a list of CAFC application records. Each application record in that list is expanded to generate the final target set of DDN records to be changed.

**CHANGE\_DDN KEY(ABC\*,XYZ\*) TYPE(G) CDTAA(Y)**

**EXTENDED CAFC RECORD MAINTENANCE FACILITY-CONTINUED**

**HEADER RECORD RESYNCHRONIZATION**

## MAINTENANCE AND CONVERSION AIDS

Header record synchronization can be performed using the stand-alone command `SYNCHRONIZE_HEADERS`. Occasionally, header record counts can become corrupted through improper use of external file maintenance. Execution of this command will read the CAFC table file, summarize the record counts by type and update the CAFC table file header records for each type of entry.

`SYNCHRONIZE_HEADERS`

**EXTENDED CAFC RECORD MAINTENANCE FACILITY - CONTINUED**

**GENERATING DDNS AND TRANSACTION FROM THE CONTENTS OF THE CICS REGIONS TABLES.**

There is a maintenance command that can be used to CAFC tablefile records from the current contents of the CICS regions FCT, PCT, or DCT. That command is

The MIGRATE command. Below are a few examples:

Create ddn records using a model and particular values for security and restart status. Migrate only extra-partition DCTs. Do not replace existing records:

```
MIGRATE_DCT KEY(*) MODEL(DDNAME) DCTTYPE(X) -
          CDTSECCD(0) CDTDRSO(C) CDTDRSE(E)
```

Create ddn records using a different model for each DCT type. Migrate all types of DCTs. Do not replace existing records.

```
MIGRATE_DCT KEY(*) DCTTYPE(X,N,I,R) -
          MODELX(DDNX) MODELN(DDNN) MODELI(DDNI) MODELR(DDNR)
```

Create ddn records using the same model for each DCT type. Migrate all types of dcts. Do not replace existing records.

```
MIGRATE_DCT KEY(*) DCTTYPE(X,N,I,R) -
          MODEL(COMMON)
```

Create ddn records for the indirect dcts. Use the destid prefixed by \$dct for the ddnames. Replace existing records. Use a model named DDNI.

```
MIGRATE_DCT KEY(*) DCTTYPE(I) PREFIX($DCT) MODEL(DDNI)-
          REPLACE
```

**EXTENDED CAFC RECORD MAINTENANCE FACILITY - CONTINUED**

## MAINTENANCE AND CONVERSION AIDS

### GENERATING DDNS AND TRANSACTION FROM THE CONTENTS OF THE CICS REGIONS TABLES - CONTINUED

Re-create ddn records for all DCT types except remotes:

```
MIGRATE_DCT KEY(*) REPLACE DCTTYPE(X,N,I)
```

Create ddn records using a model and particular values for security and restart status. Do not replace existing records:

```
MIGRATE_FCT KEY(*) MODEL(FCTX) CTTSECCD(0) CTTDRSO(E)
```

Re-create ddn records using defaults:

```
MIGRATE_FCT KEY(*) REPLACE
```

Create txn records using a model and particular values for security and restart status. Do not replace existing records:

```
MIGRATE_PCT KEY(*) MODEL(PCTX) CTTSECCD(0) CTTDRSE(E)
```

Re-create txn records using defaults:

```
MIGRATE_PCT KEY(*) REPLACE
```

### EXTENDED CAFC RECORD MAINTENANCE FACILITY - CONTINUED

**RLS ACCESS UPDATE COMMAND**

CAFC stores the RLS indicator at the ddnames level. This indicator can't be set correctly during conversion. The SYNCHRONIZE\_RLSFLAG command is designed to read the current FCT and set the RLS indicator in the relevant ddname records.

SYNCHRONIZE RLSFLAG IN DDN RECORD FOR A SINGLE FCT

**SYNCHRONIZE\_RLSFLAG KEY(FCT01)**

SYNCHRONIZE RLSFLAG IN DDN RECORDS FOR A TWO FCTS:

**SYNCHRONIZE\_RLSFLAG KEY(FCT01,FCT02)**

SYNCHRONIZE RLSFLAG IN DDN RECORDS FOR ALL FCTS ENTRIES:

**SYNCHRONIZE\_RLSFLAG KEY(\*)**

**EXTENDED CAFC RECORD MAINTENANCE FACILITY - CONTINUED**

## MAINTENANCE AND CONVERSION AIDS

### **SYNCHRONIZE CAFC TABLE FILE ENTRIES WITH CICS TABLE STATUS**

Synchronize the warm start indicators in the CAFC table file records with corresponding CICS table status values.

```
FCT  --->  SYNCHRONIZE DDN(DD) RECORDS WITH DFHFCT STATUS
          (OPEN, ENABLE)
          (READ, BROWSE, DELETE, UPDATE, ADD)
OPN  --->  SYNCHRONIZE DDN(DD) RECORDS WITH DFHFCT ACCESS
          (READ, BROWSE, DELETE, UPDATE, ADD)
DCT  --->  SYNCHRONIZE DDN(DT) RECORDS WITH DFHDCT STATUS
          (OPEN, ENABLE)
PCT  --->  SYNCHRONIZE TXN RECORDS WITH DFHPCT STATUS
          (ENABLE)
DLI  --->  SYNCHRONIZE DBD RECORDS WITH DLI STATUS
OTR  --->  SYNCHRONIZE DDN(DO) RECORDS WITH TIOT STATUS
```

Synchronize warm start for FCT and DCT entries:

**SYNCHRONIZE\_C AFC TABLES(FCT,DCT)**

Synchronize warm start for FCT and PCT entries:

**SYNCHRONIZE\_C AFC TABLES(FCT,PCT)**

Synchronize warm start for ALL entries:

**SYNCHRONIZE\_C AFC TABLES(ALL)**

### **CAFC TABLE ENTRY MAINTENANCE FACILITY AFC5**



## MAINTENANCE AND CONVERSION AIDS

In addition to the normal maintenance functions within CAFC's table edit facility, DDname and TXN records and certain fields within them can be maintained through the AFC5 standalone transaction or through AFC5's execution from the Utility Services Menu. Transaction AFC5's Table Entry Maintenance screen is displayed below. Use this panel (1) to perform limited maintenance on DDname or TXN records and (2) to change many of the fields in the DDname or TXN Table file records. The AFC5 transaction uses program AFCP2502. These functions are not available as batch interface requests in CAFC Release 4.1.01 or 3.2.02. They are only available through the B/I in CAFC Release 4.3 and higher.

```

+-----+
|----- AFC5 - CAFC TABLE FILE MAINTENANCE          ---CAFC PANEL# 226 MAP B
|SELECT OPTION ==>
|
|AFC5 - INVOKE TO APPLY MAINTENANCE TO THE CAFC TABLE FILE.
|    THE AFC5 TRANSACTION SUPPORTS THE FOLLOWING REQUESTS:
|
|    TYPE "A" - ADD DDNAME RECORDS.
|    TYPE "C" - CHANGE DDNAME ENTRY RECORD.
|    TYPE "D" - DELETE GROUP, APPLICATION, DBDLIST OR DDNAME ENTRY RECORD.
|    TYPE "P" (PURGE) -
|        (1) DELETE GROUP RECORD, ALL APPLICATIONS RECORDS ATTACHED
|            TO THAT GROUP, ALL DDNAME ENTRY RECORDS ATTACHED TO
|            APPLICATION RECORD(S)
|        (2) DELETE APPLICATION RECORD AND ALL DDNAME ENTRY RECORDS
|            ATTACHED TO THE APPLICATION RECORD.
|        (3) DELETE DBDLIST RECORD AND ALL DDNAME RECORD(S) ATTACHED
|            TO THE DBDLIST.
|    TYPE "K" - COPY DDNAME RECORDS TO CREATE NEW ONES.
|    TYPE "R" - RENAME RECORDS.
|    TYPE "L" - LIST VALUES IN FIELDS OF RECORDS.
|
|TO EXECUTE THIS TRANSACTION, TAB TO "==" AND ENTER "S"
|
|    ==> _ AFC5 - DDNAME ENTRY MAINTENANCE FACILITY
|
|                                PF3-END  PF4-RET
+-----+

```

### REQUEST

The maintenance request directs the maintenance program, AFCP2040, to perform ADD(A), CHANGE(C), COPY(K), DELETE(D), or PURGE(P) functions.

- A    ADD DDname or TXN record
- C    CHANGE DDname or TXN Entry record
- D    DELETE Group, Application, DBDlist, DDname, or TXN Entry record
- K    COPY an existing DDname or TXN record creating a new entry with the new entry name.
- R    RENAME an existing records.
- L    LIST values in fields of records.

**CAFC TABLE ENTRY MAINTENANCE FACILITY AFC5 - CONTINUED**

- P Delete specified record and all records specified in the list.
- EX A PURGE of an Application list will delete the Application list and any DDname, TXN, and DBDLIST records specified within the Application list.

**ENTRY TYPE**

The entry type which defines the type of CAFC table file record.

- A Application record
- D DDname entry record
- G Group record
- P DBDlist record
- T Transaction record

**ENTRY NAME**

The Application list, DBDlist, Group list, DDname or TXN entry name.

**COPY ENTRY NAME**

The entry name for the COPY(K) request to create a new DDname or TXN record.

**DATASET NAME**

The 44 byte new dataset name.

**OLD DSN NODE**

Works in conjunction with NEW DATASET NODE to replace matched strings in a dataset name. The Old Dataset Node is the string specified for matching against the dataset name data.

**NEW DSN NODE**

This field is the string replacement data when a match is found using the Old Dataset Node.

**TABLE TYPE**

This field specifies data set type of record created via ADD(A) request.

- DD FCT Ddname
  - DI Ignore Ddname
  - DJ JCT Ddname
  - DO Non-CICS Ddname
  - DP DLI Physical Ddname
  - DR RPL Ddname
  - DT DCT Ddname
  - DU User exit Ddname
- Default value ==> DD

**CAFC TABLE ENTRY MAINTENANCE FACILITY AFC5 - CONTINUED**

DISPOSITION

This field modifies the file disposition code. Disposition codes O(OLD) or S(SHR) for VSAM DDname entries. Disposition codes M(MOD), N(NEW), O(OLD) or S(SHR) for NON-VSAM DDname entries.

FREE AT CLOSE TIME

Option to deallocate file at close time.

- Y Deallocate file on close request
- N Do not deallocate file on close request

AUTOMATIC ALLOCATION

Option to perform automatic allocation on open request.

- Y Perform automatic allocation on open request
- N Do not

AUTOMATIC ENABLE ON ALLOC

Option to Enable file on allocate request or automatic allocation.

- Y Enable file on allocate request
- N Do not enable file on allocate request.

AUTOMATIC ENABLE ON OPEN

Option to Enable file on open request.

- Y Enable file on open request.
- N Do not enable file on open request.

AUTOMATIC DISABLE ON CLOSE

Option to Disable file on close request.

- Y Disable file on close request.
- N Do not disable file on close request.

AUTOMATIC DISABLE ON FREE

Option to Disable file on free request or automatic free request.

- Y Disable file on free request.
- N Do not disable file on free request.

RLS ACCESS INDICATOR

This field indicates whether the dataset for the ddname entry is RLS.

- Y Dataset is RLS file.
- N Dataset is not RLS.

**CAFC TABLE ENTRY MAINTENANCE FACILITY AFC5 - CONTINUED**

CICS TRAN-DATA DESTID

This field alters the transient data destination ID. This change can only be made to a non-VSAM DDname entry record.

TRANSIENT DATA TYPE

This field defines the DCT Transient Data Type.

I	Indirect
N	Intrapartition
R	Remote
X	Extrapartition

PDS MEMBER

PDS member name for retrieving a member from a PDS file. This change can only be made to a DI or DO table type record.

MODEL NAME

An existing tablefile entry to be used to base the creation of a new entry from. If model is not used all fields not provided will be set to defaults.

**LINKING TO THE TABLE FILE MAINTENANCE FACILITY**

Certain DDname and TXN Entry Maintenance functions may be invoked through the AFC5 transaction or by building and passing a maintenance function parmlist and linking to program, AFCP2503. The Installation tape includes the DSECT, AFCD2040, for the maintenance function parmlist. These functions are not available as batch interface requests in CAFC Release 3.2.02 or 4.1.01. They are only available in CAFC Release 4.3 and higher.

The requesting program must be a CICS Command Level program. The following fields must be present in the parmlist:

AF4REQST 1 byte Request code. The Request code must be one of the following:

- A ADD DDname or TXN record.
- C CHANGE DDname data.
- D DELETE GROUP, APPLICATION, DBDLIST or DDname.
- K COPY existing DDname or TXN record creating new record.
- P PURGE. If the ENTRY TYPE is a G(GROUP LIST), delete: (1) GROUP record, (2) all of the APPLICATION records under that GROUP and (3) all DDname records belonging to all APPLICATION records.

If the ENTRY TYPE is an A(APPLICATION LIST), delete: (1) the APPLICATION LIST record and (2) all of the DDname records belonging to that APPLICATION LIST.

If the ENTRY TYPE is a D(DDNAME) entry, delete the DDNAME record.

If the ENTRY TYPE is a P(DBDLIST), delete: (1) the DBDLIST record and (2) all DDname records under that DBDLIST.

R RENAME table file entry.

AF4ENTRY1 The 1 character CAFC Entry Type code. The Entry Type code must be one of the following:

- A APPLICATION LIST
- D DDNAME
- G GROUP LIST
- I DBDLIST
- T TXN

**LINKING TO THE TABLE FILE MAINTENANCE FACILITY - CONTINUED**

AF4ENTY2 The 1 character CAFC DDname Type code. The Entry Type code must be one of the following:

D	FCT DEFINED DATA SET
J	JOURNAL DATASET DEFINED IN JCL
I	IGNORE THIS ENTRY
O	OTHER
P	DLI PHYSICAL DATABASE
R	RPL DATA SET
T	DCT DATASET DEFINED IN DCT
U	USER INTERFACE CONTROLLED DATASET

AF4ENTNM The 1 to 8 Character CAFC Table Entry name upon which you want the function performed. Entry name can be specified generically by substituting asterisks (\*) as part of the entry name. Entry name ABC\* will process all entries that start with ABC.

The following fields are optional and pertain to the change request only.

AF4NEWNM New ddname for rename function

AF4CPYNM The 1 to 8 byte new DDname or TXN for COPY function.

AF4LINK --- Link indicator.

B	linked from CAFC Batch Interface
O	linked from user program
U	linked from AF4CP2100

AF4JOBNM Batch job name.

AF4DSNAM The 1 to 44 byte Dataset Name to replace the Dataset Name in the DDname record.

AF4ONODE The 1 to 20 byte node/string to be matched against the Dataset Name for replacement by the new node or string.

AF4NNODE The 1 to 20 byte node/string which will replace the old node/string data.

AF4DISP The 1 byte file disposition code. Valid codes for VSAM DDname records are S(SHR) or O(OLD). Codes for non VSAM DDname records are; M(MOD), N(NEW), O(OLD), or S(SHR).

**LINKING TO THE TABLE FILE MAINTENANCE FACILITY - CONTINUED**

AF4FRECL	The 1 byte code for Free at Close Time indicator. The Free at Close Time indicator must be one of the following:
Y	FREE this dataset if a CLOSE is issued for this dataset.
N	Do not FREE this dataset if a CLOSE is issued for this dataset.
AF4AALOC	The 1 byte code to perform Automatic Allocation at OPEN time. The Automatic Allocation at OPEN code must be one of the following:
Y	Perform Automatic Allocation on the Dataset whenever an OPEN request is issued.
N	Do not perform Automatic Allocation on the Dataset whenever an OPEN request is issued.
AF4AEA	The 1 byte code to perform Automatic Enable on an ALLOC
AF4AEO	The 1 byte code to perform Automatic Enable on an OPEN
AF4ADC	The 1 byte code to perform Automatic Disable on a CLOSE
AF4ADF	The 1 byte code to perform Automatic Disable on an FREE
AF4RLS	The 1 byte code to designate an RLS dataset.
AF4TDDDES	The 4 byte code for CICS DCT Destination Id. Applicable for Non-VSAM record only.
AF4TDTYP	The 1 byte code to designate transient data type
I	Indirect
N	Intra
R	Remote
X	Extrapartition
AF4NRSUF	The 2 byte suffix for non-resident DCT entries. Applicable to non-VSAM records only. Not used for CICS Version 3.
AF4PDSMB	The 1 to 8 byte PDS member name.
AF4RETCD	The 2 byte numerical return code.
00	Successful Completion
02	Invalid Request
04	Invalid Entry Type
06	Entry Name Not Found In Table File
08	Dataset Name Change With Oldnode/Newnode Data entered
10	Oldnode/Newnode not entered
11	Matching node not found
12	Invalid Disposition
16	Invalid Free at close time option
18	Invalid Automatic Allocation Option
19	Invalid automatic enable option (alloc)
20	Invalid Automatic enable option (open)

**LINKING TO THE TABLE FILE MAINTENANCE FACILITY - CONTINUED**

22	No Change Data Entered
24	Not Valid For Vsam Records
26	Invalid record type
29	@FCT in dsn with RLS=Y
30	New data set name greater than 44 bytes
31	@FCT data set name not in fct
32	Record already exists - copy request
34	Record already exists - add request
36	Record not found - copy request
38	Transaction ID greater than four(4) bytes
40	Delete not allowed
42	Security violation
44	Invalid VSAM type
46	Invalid transient type
48	Data not entered (request, entry type, entry name or copy name)
50	Not in DDname table
52	Invalid member name
54	Invalid automatic disable option(close)
55	Invalid automatic disable option (free)
56	Invalid RLS flag
58	File not RLS in fct
AF4MSGNO	The 3 byte message number.
AF4MSGTX	The 24 byte message text.
AF4PAPTR	Parm area pointer - used by AF4CP2100.
AF4USRID	Userid from AF4CP2100.
AF4MSG#	Message number(Hex).
AF4BIRC	Batch Interface return code.



**TRANSFER CAFC TABLE ENTRIES BETWEEN TABLE FILES**

AFCP2020 is a CAFC utility program which will transfer CAFC Table Entries between CAFC Table Files (i.e. from a test CAFC Table File to a production CAFC Table File). This eliminates the re-keying of CAFC Table entries that already have been defined to another region's CAFC Table File. Table file entries, being moved or copied from a 3.2.02 or 4.1.01 Table File, will be automatically converted to CAFC 4.5 Table File entries.

A sample of the JCL to run the AFCP2020 transfer program is provided in Installation PDS member CAFCXFER. The JCL also follows below:

```
//CAFCXFER      JOB    (acct),'CAFC JCL TRANSFER',CLASS=A,MSGCLASS=A
//*
//JS010         EXEC   PGM=AFCP2020
//STEPLIB       DD    DSN=cafc.loadlib,DISP=SHR
//*
//INCAFC        DD    DSN=cafc.tablfill1,DISP=SHR
//*
//OUTCAFC       DD    DSN=cafc.tablfil12,DISP=SHR
//*
//SYSPRINT      DD    SYSOUT=*,DCB=(RECFM=FBA,LRECL=133,BLKSIZE=133)
//*
//SYSUDUMP      DD    SYSOUT=*
//*
//SYSIN         DD    *
CONTROL CARD
//
```

The AFCP2020 control cards, which are contained in the SYSIN data set, are structured as follows:

```
tt eeeeeeee rrrr xxxxx yyyyy
```

where:

tt	Entry Type:
D	DDname Table Entry
DD	FCT DDname Table Entry
DJ	JOURNAL DDname Table Entry
DI	IGNORE DDname Table Entry
DO	OTHER DDname Table Entry
DP	PHYSICAL DATABASE DDname Table Entry
DR	RPL DDname Table Entry
DT	DCT DDname Table Entry
DU	USER CONTROLLED DDname Table Entry
T	Transaction TXN. Table Entry
A	Includes both AD & AT for an Application

**TRANSFER CAFC TABLE ENTRIES BETWEEN CAFC TABLE FILES - CONTINUED**

AD	Application DDname Table Entry and all associated CICS DDname Table Entries
G	CAFC Application Group Table Entry and all associated CAFC Application Table Entries and CAFC CICS DDname Entries.
I	CAFC CICS DBD DDname Table Entry and all associated DDname Table Entries.
AR	RPL List
RL	Applrout List
SL	Sublist Lists
GL	Global Route entry
CS	Message Cust entry
U	Userid Entries

e.....e Entry Name ---- Valid Entry Name on the Input CAFC Table File. Generic specifications are valid.

r.....r Replace Option:

REPLACE	If a selected entry already exists on the Output CAFC Table File replace it with the entry from the Input CAFC Table File.
NOREPLACE	If a selected entry already exists on the Output CAFC Table File DO NOT replace it with the entry from the Input Table File.

x..x DSN search string - 1-28 DSN character search string which you want to be replaced with the DSN replace string. This string can appear anywhere within the DSN of a CAFC CICS DDname Table Entry. If this search string is found, it will be replaced with the DSN replace string.

NOTE: Only the first occurrence within a DSN will be replaced. However; multiple DSNs may be affected by the change if the transfer request is against an application or group. This is useful for doing node changes against data set names in an application or group.

y..y DSN replace string- 1-28 DSN character replace string with which you will replace the DSN search string.

NOTE: The CAFC Table File must be closed to CICS when running the AFCP2020 Batch Transfer program. To close the Table File to CICS, issue the 'AFCT,SHUTDOWN' transaction. For more details, review the section on "Closing the CAFC Table File" in the chapter entitled OPERATIONAL CONSIDERATIONS.

**GENERATE DDNAME RECORDS FROM JCL DD STATEMENTS**

AFCP2023 is a CAFC utility program, which will create CAFC DDname Table Entries from JCL DD statements. This program is a handy conversion aid. Below is a description of the program and its control cards.

1. AFCP2023 will reformat JCL card images located in a PDS member, in a sequential data set or within in-stream data.
2. Installation member CAFCCVDD contains JCL to run the AFCP2023 conversion program. The JCL is also listed below:

```
//CAFCCVDD      JOB    (acct),'CAFC DD CONVERT',CLASS=A,MSGCLASS=A
//*
//JS010         EXEC   PGM=AFCP2023
//STEPLIB       DD     DSN=cafc.loadlib,DISP=SHR
//*
//OUTCAFC       DD     DSN=cafc.tablfile,DISP=SHR
//*
//SYSPRINT      DD     SYSOUT=*,DCB=(RECFM=FBA,LRECL=133,BLKSIZE=133)
//*
//SYSUDUMP      DD     SYSOUT=*
//*
//SYSIN         DD     DATA,DELIMITER=$$
JCL DDCARD
JCL DDCARD
JCL DDCARD
$$
```

3. The AFCP2023 control cards, which are contained in the SYSIN data set, are structured as follows:

JCL DDCARD

These are the JCL dd statements you wish to be converted into CAFC ddname entries. The conversion program assumes the JCL cards to be in the following format:

```
//          in cols 1-2
ddname      beginning in col. 3 and 1-8 characters long.
dataset name beginning after the character string "DSN="
              and ending before a comma.
```

If the JCL card does not meet the above format, an error message will be printed and processing continues with the next card.

**GENERATE DDNAME RECORDS FROM JCL DD STATEMENTS - CONTINUED**

4. A VSAM CAFC DDname Table Record created as a result of a successful conversion will have the following attributes:

Data set type	DD
Data set name	NULLFILE
Disposition	S
Data set type	D
Invoke msg facility	N
Free at close time	Y
Automatic allocation	Y
Warm start override 1	M
Warm start override 2	M
Warm start override 3	MM
CAFC security	0
Altername Dataset name flag	N
Record Level Shring	N
Auto Enable on Allocate	Y
Auto Enable on Open	Y
Auto Disable on Close	Y
Auto Disable on Free	Y
Allow Read Access	Y
Allow Browse Access	Y
Allow Update Access	Y
Allow Add Access	Y
Allow Delete Access	Y
Subsystem Flag	N

5. The CAFC Table File (AFCF4000) must be closed to the CICS region while running the AFCEP2023 conversion program. To close the Table File, issue the 'AFCT,SHUTDOWN' transaction. For more details, review the section on "Closing the CAFC Table File" in the chapter entitled OPERATIONAL CONSIDERATIONS.

## MISCELLANEOUS CAFC UTILITIES

### UTILITY SERVICES MENU

The CAFC UTILITY SERVICES MENU is an on-line interface to a collection of programs and transactions that provide CAFC Table File maintenance facilities and miscellaneous operational controls functions. The Menu provides convenient access to these facilities. Many of these programs and transactions can be invoked directly without this menu interface. After entering the item symbol for Display Utility Services option on the PRIMARY OPTION MENU, the UTILITY SERVICES MENU is displayed.

```
+-----+
|-----|          UTILITY SERVICES MENU          |---CAFC PANEL# 226 MAP P|
|SELECT OPTION ==>|
|
|      _ 1 ACT/DEACTIVATE TRACE FUNCTIONS
|      _ 2 CAFC STARTUP AND RELATED FUNCTIONS
|      _ 3 CAFC SHUTDOWN AND RELATED FUNCTIONS
|      _ 4 PERFORM A CAFC WARM START
|      _ 5 DFHRPL MODULE LOCATE REQUESTS
|      _ 6 DDNAME ENTRY MAINTENANCE FACILITY
|      _ 7 EXTENDED CAFC RECORD MAINTENANCE FACILITY
|
|      TO SELECT, ENTER OPTION NUMBER OR TAB TO SERVICE AND ENTER "S"
|
|PRESS  CLEAR KEY TO TERMINATE CAFC
|-----+
```

**UTILITY SERVICES MENU - CONTINUED****ACTIVATE/DEACTIVATE TRACE FUNCTIONS**

This function retrieves the Trace screen. The screen controls the dynamic activation of CAFC's traces.

Pictured below is the TRACE panel for updating CAFC's Trace options.

```

+-----+
| -----          TRACE OPTIONS          ---CAFC PANEL# 226 MAP I |
| SELECT OPTION ==>                                         |
|                                                         |
|   THIS FUNCTION UPDATES THE FOLLOWING OPTIONS FOR THE CICS REGION: |
|                                                         |
|   (1) START/STOP CAFC GENERAL DEBUGGING TRACE. |
|   (2) START/STOP CAFC I/O SUBSYSTEM TRACE. |
|   (3) START/STOP CAFC DLI SUBSYSTEM TRACE. |
|   (4) START/STOP CAFC INTERNAL TRACE. |
|                                                         |
|   NOTE: THESE TRACES WILL PRODUCE A LARGE NUMBER OF PRINT LINES |
|         TO DATA SET 'CAFCTRAC'. USE THESE TRACES ONLY WHEN ADVISED |
|         BY NETEC TECHNICAL SUPPORT |
|                                                         |
|                                                         |
|   TO EXECUTE, TAB TO "==" AND ENTER "S". |
|                                                         |
|   ==> _ UPDATE TRACE OPTIONS |
|                                                         |
|           PF3-END  PF4-RET |
|                                                         |
+-----+

```

After entering the item number for 'TRACE' from the Customization Option Menu, TRACE OPTIONS panel is displayed. Use this panel to update the following options:

- 1     GENERAL DEBUGGING TRACE INFORMATION
- 2     CAFC I/O TRACE INFORMATION
- 3     CAFC DLI TRACE INFORMATION
- 4     CAFC INTERNAL TRACE

**UTILITY SERVICES MENU - CONTINUED****CAFC I/O TRACE INFORMATION**

The CAFC I/O Trace Program traces all I/O activity performed against the CAFC tablefile when the trace field is set on. When activated, these traces are written to the CAFCTRAC dataset. These traces should normally be turned OFF. Activate them only to monitor suspect error situations. Allowable trace flags values are:

N Trace OFF

Y Trace ON

Default value ==> N

**CAFC DLI TRACE INFORMATION**

The CAFC DLI Trace Program traces all DLI request activity. When activated, these traces are written to the CAFCTRAC dataset. These traces should normally be turned OFF. Activate them only to monitor suspect error situations. Allowable trace flags values are:

N Trace OFF

Y Trace ON

Default value ==> N

**GENERAL DEBUGGING TRACE**

Every CAFC program is built around a series of trace macros. When activated, these macros write detailed program flow trace entries to the CAFCTRAC data set. This trace will produce a large volume of print lines. The trace information is not readily interpreted by the general CAFC user. The trace should normally be turned OFF. Use the General Debugging Trace only under the guidance of NETEC's Technical Support. CAFCTRAC should be (1) defined in the CICS startup JCL stream or (2) defined in the CAFC Table File as:

//CAFCTRAC DD SYSOUT=A

Allowable trace flags values are:

N Trace OFF

Y Trace ON

**UTILITY SERVICES MENU - CONTINUED**

The CAFC Trace facility writes to the sysout data set, CAFCTRAC. If you have not allocated this data set prior to starting the Trace, no output will be generated. In addition you will find an IEC130I message written to the CICS region's JES log.

**TRACE DURING SYSTEM INITIALIZATION**

To trace CAFC during CICS SIT processing, you must allocate the CAFCTRAC sysout data set through the CICS region's startup JCL statements. Make sure the trace operand 'TRACE=Y' is added to the CAFCPARM sysin input stream.



**UTILITY SERVICES MENU - CONTINUED****CAFC STARTUP AND RELATED FUNCTIONS**

Use the enhanced AFCT transaction to modify the status of the active CAFC system. The enhanced AFCT transaction, with the 'START' operand, has totally replaced the AFC1 transaction. AFC1 is no longer distributed. The panel below describes the status changes that an 'AFCT,START' transaction would have on the active region. Alternatively, an 'AFCT,START' from a cleared screen, can be executed to perform the same status changes.

```

+-----+-----+-----+-----+-----+-----+-----+-----+
|----- AFCS - CAFC STARTUP TRANSACTION          ---CAFC PANEL# 226 MAP A |
|SELECT OPTION ==>                                |
|
|AFCT,START    THIS TRANSACTION PERFORMS THE FOLLOWING:
|               (1) ALLOCATES AND OPENS AFCE4000.
|               (2) RECORDS NORMAL STARTUP IN AFCE4000.
|               (3) ACTIVATES CAFC SUPPORT FOR CICS,
|                   DLI, DCT, PCT AND FCT REQUESTS.
|               (4) ACTIVATES THE AFCE2109 SERVICE PROGRAM
|AFCT,STATE    THIS TRANSACTION PERFORMS THE FOLLOWING:
|               (1) DISPLAY THE CURRENT STATE OF CAFC SUPPORT
|                   AND THE STATUS OF CAFC STARTUP FUNCTIONS.
|
|               _ AFCT,START      PERFORM CAFC STARTUP ACTIVITIES
|
|               _ AFCT,STATUS     DISPLAY CURRENT STATUS OF CAFC SUPPORT
|
|
|TO EXECUTE, TAB TO DESIRED TRANSACTION AND ENTER "S"
|               PF3-END  PF4-RET
+-----+-----+-----+-----+-----+-----+-----+-----+

```

**UTILITY SERVICES MENU - CONTINUED****CAFC SHUTDOWN AND RELATED FUNCTIONS**

Use the enhanced AFCT transaction to modify the status of an active CAFC system. The panel below describes the status changes that an 'AFCT,SHUTDOWN' and an 'AFCT,DEQ' transaction would have on the active region. Alternatively, an 'AFCT, SHUTDOWN' and an 'AFCT,DEQ' from a cleared screen, can be executed to perform the same status changes.

```

+-----+
|----- AFCT - CAFC SHUTDOWN TRANSACTION          ---CAFC PANEL# 226 MAP C |
|SELECT OPTION ==>|
|
|AFCT,SHUTDOWN  THIS TRANSACTION PERFORMS THE FOLLOWING:
|                (1) ENQUEUES ON AFCF4000 TO RESTRICT THE BATCH INTERFACE.
|                (2) QUIESCES CAFC REQUESTS.
|                (3) REMOVES CAFC SUPPORT FOR CICS
|                   DLI, DCT, PCT AND FCT REQUESTS.
|                (4) RECORDS NORMAL SHUTDOWN IN AFCF4000.
|                (5) CLOSES AND FREES AFCF4000.
|                (6) RELEASES THE ENQUEUE ON AFCF4000.
|                (7) TERMINATES AFCEP2109 SERVICE PROGRAM.
|
|AFCT,DEQ       THIS TRANSACTION PERFORMS THE FOLLOWING:
|                (1) RELEASES THE ENQUEUE ON AFCF40000
|
|TO EXECUTE, TAB TO DESIRED TRANSACTION AND ENTER "S"
|
|                PF3-END  PF4-RET
|
+-----+

```

To temporarily deactivate the automatic Dynamic Allocation feature of CAFC, select AFCT with the 'SHUTDOWN' operand. 'AFCT SHUTDOWN' deactivates all extended support facilities, closes the CAFC file and shuts down the automatic facilities transaction AFC9. Open and Close requests (i.e. from a CEMT, or EXEC CICS commands) will not have CAFC perform Allocations and Frees for them. All requests requiring services from CAFC will be unsuccessful. To reactivate CAFC, simply issue the AFCT START transaction.

The AFCT,START and AFCT,SHUTDOWN requests may be issued from the Batch Interface by submitting the following control cards:

CICSAPPL,TRAN,AFCT,\$START

or

CICSAPPL,TRAN,AFCT,\$SHUTDOWN

**UTILITY SERVICES MENU - CONTINUED****PERFORM A CAFC WARM START**

Use the enhanced AFCT transaction to modify the status of the active CAFC system. The enhanced AFCT transaction, with 'WARM' operand, has totally replaced AFCW transaction. The AFCW transaction is no longer distributed. The panel below describes the status changes that an 'AFCT,WARM' and an 'AFCT,OVER' transaction would have on the active region. Alternatively, an 'AFCT,WARM' or an 'AFCT,OVER' from a cleared screen, can be executed to perform the same status changes.

```

+-----+
|----- AFCT - CAFC STARTUP TRANSACTION          ---CAFC PANEL# 226 MAP A |
|SELECT OPTION ==>                                |
|                                                    |
|AFCT,WARM      THIS TRANSACTION PERFORMS THE FOLLOWING:  |
|                (1) PERFORM A CAFC WARM START.          |
|                  CAFC WARM START CAN BE PERFORMED ONLY ONCE PER CICS |
|                  SESSION. IT IS NORMALLY INVOKED AUTOMATICALLY      |
|                  DURING CICS PLTPI PROCESSING BY AFCP2010.          |
|                                                    |
|AFCT,OVER      THIS TRANSACTION PERFORMS THE FOLLOWING:  |
|                (1) PROCESSES CAFC REQUESTS IN FILE CAFCOVER.        |
|                _ AFCT,WARM      PERFORM CAFC WARM START.            |
|                _ AFCT,OVER      PROCESS CAFC OVERRIDE REQUESTS      |
|                                                    |
|TO EXECUTE, TAB TO DESIRED TRANSACTION AND ENTER "S"              |
|                                                    |
|                PF3-END  PF4-RET                                     |
+-----+

```

'AFCT,WARM' performs an CAFC warm start. You may wish to use the function to initiate a CAFC warm start after CICS is up. Normally CAFC's warm start processing is handled by the CAFC initialization program AFCP2010. The 'AFCT,WARM' transaction can only be executed once during the current CICS session.

## MISCELLANEOUS CAFC UTILITIES

### UTILITY SERVICES MENU - CONTINUED

## DFHRPL MODULE LOCATE REQUESTS

This function runs the SRCH transaction, which in turn performs a DFHRPL search for the program provided. Upon completion, the current DFHRPL concatenation is displayed. The display will show the PDS from which the program was loaded.

```
----- MODULE SEARCH -----CAFC PANEL# 226 MAP J
SELECT OPTION ===>

SEARCH THE CICS RPL FOR ALL OCCURENCES OF THE SELECTED
LOAD MODULE. THE RESULTING DISPLAY PRESENTS A COMPLETE
LIST OF THE RPL, THE ASSEMBLY TIME STAMP, THE CURRENT
LOAD STATUS AND THE DISK VOLUME SERIAL NUMBER.


TO EXECUTE, TAB TO "==" AND ENTER NAME
OF MODULE, THEN PRESS ENTER:

==>

PF3-END PF4-RET
```

The SRCH transaction can be run stand-alone.

**UTILITY SERVICES MENU - CONTINUED****CAFC TABLE ENTRY MAINTENANCE FACILITY**

This function runs the AFC5 transaction, which in turn presents a series of panels. The panels allows maintenance to limited fields within a CAFC Table File's ddname and CICSTXN records. Nodes within DSNAMES can be globally updated. The panels accept generic specifications and allow mass changes to the status flags and fields. The AFC5 transaction can be run from the UTILITY SERVICES MENU, run as a stand-alone transid, linked to from a user program or run from the B/I. Users attempting to perform maintenance requests using this facility must have Master authority for requests to complete normally.

Below is the AFC5 instruction panel.

```

+-----+
|----- AFC5 CAFC TABLE FILE MAINTENANCE          ---CAFC PANEL# 226 MAP B|
|SELECT OPTION ==>|
|
|AFC5 - INVOKE TO APPLY MAINTENANCE TO THE CAFC TABLE FILE.|
|THE AFC5 TRANSACTION SUPPORT THE FOLLOWING REQUESTS:|
|
|  "A" - ADD DDNAME OR CICSTXN RECORDS.|
|  "B" - CHANGE DDNAME OR CICTXN ENTRY RECORDS.|
|  "D" - DELETE GROUP, APPLICATION, DBDLIST, DDNAME OR CICS TXN RECORD.|
|  "P" - PURGE -|
|    (1) DELETE GROUP RECORD, ALL APPLICATION RECORDS ATTACHED|
|          TO THAT GROUP, ALL DDNAME AND CICSTXN RECORDS ATTACHED TO THAT|
|          APPLICATION RECORD(S)|
|    (2) DELETE APPLICATION RECORD AND ALL DDNAME AND CICSTXN RECORDS|
|          ATTACHED TO THE APPLICATION RECORD.|
|    (3) DELETE DBDLIST RECORD AND ALL DDNAME RECORD(S) ATTACHED TO|
|          THE DBDLIST.|
|  "K" - COPY DDNAME OR CICSTXN RECORDS TO CREATE NEW ENTRIES|
|  "R" - RENAME RECORD|
|  "L" - LIST VALUES IN FIELDS OF RECORD|
|
|TO EXECUTE THIS TRANSACTION, TAB TO "AFC5" AND ENTER "S"|
|
|==> _ AFC5 - DDNAME ENTRY MAINTENANCE FACILITY|
|
|PR3-END PF4-RET|
+-----+

```

The AFC5 transaction can be run stand-alone.

## MISCELLANEOUS CAFC UTILITIES

### CAFC TABLE FILE ENTRY BATCH REPORT

To list CAFC Table File entries use program, AFPCP2021, with the following JCL. (Note: A sample of this JCL is provided on the installation tape in member CAFCBRPT.)

```
//CAFCBRPT      JOB      (ACCT),CAFC,CLASS=A,MSGCLASS=A
//*
//JS010         EXEC     PGM=AFPCP2021
//STEPLIB       DD      DSN=cafc.loadlib,DISP=SHR
//*
//INCAFC        DD      DSN=in.cafcfile,DISP=SHR
//*
//SYSPRINT      DD      SYSOUT=*,DCB=(RECFM=FBA,LRECL=133,BLKSIZE=133)
//*
//REPORT        DD      SYSOUT=*,DCB=(RECFM=FBA,LRECL=133,BLKSIZE=133)
//*
//SYSIN         DD      *
tt  n.....n
tt  n.....n
...
...
...
tt  n.....n
tt  n.....n
//SYSUDUMP      DD      SYSOUT=*
//
```

where:

ttt	The 1-3 character type code. Must be one of the following:
D	DDNAME ENTRY - ALL TYPES
DD	DDNAME ENTRY - TYPE D FCT ENTRY
DT	DDNAME ENTRY - TYPE T DCT ENTRY
DJ	DDNAME ENTRY - TYPE J JOURNAL
DI	DDNAME ENTRY - TYPE I IGNORE
DO	DDNAME ENTRY - TYPE O OTHER
DU	DDNAME ENTRY - TYPE U USER
DP	DDNAME ENTRY - TYPE P DATABASE
DR	DDNAME ENTRY - TYPE R RPL

# MISCELLANEOUS CAFC UTILITIES

## CAFC TABLE FILE ENTRY BATCH REPORT - CONTINUED

1-3 character type codes continued.

T	Transaction Entry
I	DBD NAME ENTRY
A	APPLICATION ENTRY
G	GROUP ENTRY
RL	APPL Route entry
SL	SUBLIST entry
GL	GLOBAL Route entry
CS	GLOBAL Route Customization
AC	APPL Route Customization
DS	DDNAME ENTRY Summary list
DDS	FCT DDNAME ENTRY Summary list
DTS	DCT DDNAME ENTRY Summary list
DRS	RPL DDNAME ENTRY Summary list
DJS	JOURNAL DDNAME ENTRY Summary list
DIS	IGNORE DDNAME ENTRY Summary list
DOS	OTHER DDNAME ENTRY Summary list
DPS	DATABASE DDNAME ENTRY Summary list
*IS	DBD NAME ENTRY Summary list
*AS	APPLICATION ENTRY Summary list
*GS	GROUP ENTRY Summary list
*TS	TRANSACTION ENTRY Summary list
SA	APPLICATION ENTRY list plus a 1 line summary print for each DDname in APPLICATION

n.....n The 1 to 8 character CAFC Table entry you want listed.  
If omitted, all of the entries in the table will be  
listed. Generic qualifications are acceptable. \* in  
entry name field will print all applications.

\* Entry name is not allowed with summary requests.

The step return codes that AFPCP2021 generates are:

00	Correct control cards, records found.
04	Correct control cards, no records found.
08	Incorrect control cards.
12	CAFC Table File not opened or not available.

## MISCELLANEOUS CAFC UTILITIES

### CAFC CONTROL RECORD REPORT

To print the contents of a region's CAFC Table File control record, use the following JCL to execute program AFPCP2045. This sample JCL is also provided in the INSTLIB PDS as member CAFCCTLR.

```
//CAFCCTLR      JOB    (ACCT),CAFC,CLASS=A,MSGCLASS=A
//*
//JS010         EXEC   PGM=AFPCP2045
//STEPLIB       DD    DSN=cafc.loadlib,DISP=SHR
//*
//INCAFC        DD    DSN=in.cafcfile,DISP=SHR
//*
//SYSPRINT      DD    SYSOUT=*,DCB=(RECFM=FBA,LRECL=133,BLKSIZE=133)
//*
//REPORT        DD    SYSOUT=*,DCB=(RECFM=FBA,LRECL=133,BLKSIZE=133)
//*
//SYSUDUMP      DD    SYSOUT=*
```



## MISCELLANEOUS CAFC UTILITIES

### CAFC TSO ISPF LOG VIEWER INSTALLATION AND USER INSTRUCTIONS

CAFC provides the function of having log records from multiple CICS environments be merged into a single MVS system log. This functionality can provide the user with a single view of all CAFC activities in a multiple CICS environment. Facilities to view the combined log are provided via an ISPF Log Viewer. If the user is going to use the MVS system logger to house CAFC log records the following installation steps are necessary.

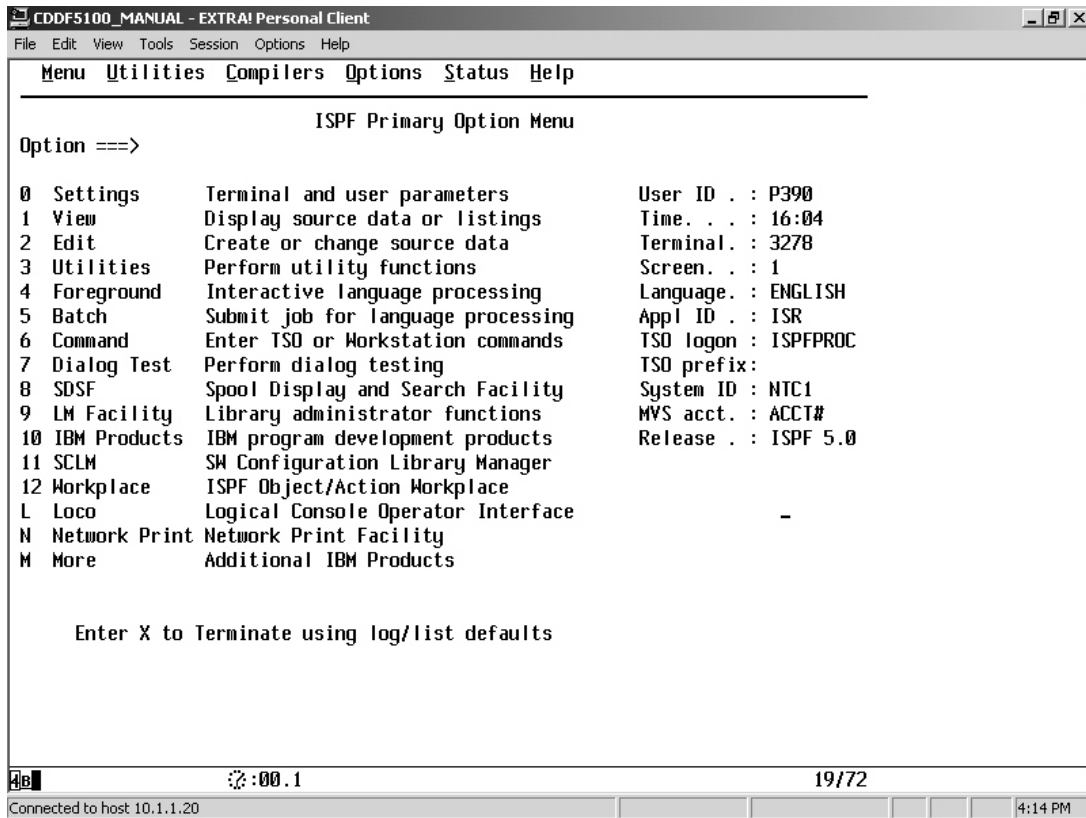
Step x. Install the CAFC TSO ISPF Log Viewer

- a. Modify your TSO procedure to include the CAFC TSO ISPF Log Viewer libraries. The following libraries should be concatenated with the libraries found with the corresponding DDNAMEs. Exercise caution when modifying the TSO procedure. If a mistake is made that will cause a JCL error a TSO user will not be able to logon using the modified procedure.

DDNAME	Library
STEPLIB	your.load.pds
ISPPLIB	your.ispf.ispplib
ISPMLIB	your.ispf.ispmlib
ISPTLLB	your.ispf.isptlib

To determine the TSO procedure that a TSO user is currently using, enter the primary option menu of ISPF. The screen should look similar to the following example. On the right side of the screen is a field labeled TSO logon. This field contains the TSO procedure name that is most likely the one to be modified. In the following example the TSO procedure name is ISPFPROC.

# MISCELLANEOUS CAFC UTILITIES



The following is a partial listing of the ISPFPROC from the previous example before it has been modified to include the CAFC libraries. The changes have been indicated below. The double dots (..) indicate missing lines of information that have been removed to shorten the listing.

```
//*****
//*
//*          ISPF FULL-FUNCTION LOGON PROC
//*
//*****
//ISPFPROC EXEC PGM=IKJEFT01,REGION=0M,DYNAMNBR=175,
//          PARM='%ISPFCL'
//SYSUADS DD DISP=SHR,DSN=SYS1.UADS
//SYSLBC DD DISP=SHR,DSN=SYS1.BROADCAST
//SYSPROC DD DISP=SHR,DSN=SYS1.LOCAL.CLIST
//          DD DISP=SHR,DSN=ISP.SISPCLIB
//          ..
//          ..
//SYSEXEC DD DISP=SHR,DSN=ISP.SISPEXEC
//          DD DISP=SHR,DSN=SOMMVS.SGOSREXX
//          ..
//SYSHELP DD DISP=SHR,DSN=SYS1.HELP
//          DD DISP=SHR,DSN=ISP.SISPHELP
//          ..
//          ..
//ISPMLIB DD DISP=SHR,DSN=ISP.SISPMENU
//          DD DISP=SHR,DSN=SYS1.DFQMLIB
```

# MISCELLANEOUS CAFC UTILITIES

```

..
..
//ISPPEXEC DD DISP=SHR,DSN=ISP.SISPEXEC
//          DD DISP=SHR,DSN=SYS1.SBPPEXEC
//          ..
//          ..
//ISPLLIB DD DISP=SHR,DSN=GDDM.SADMMOD
..
..
//ISPPLIB DD DISP=SHR,DSN=SYS1.LOCAL.ISPPNLS
//          DD DISP=SHR,DSN=ISP.SISPPENU
//          DD DISP=SHR,DSN=SYS1.DFQPLIB
..
..
//ISPSLIB DD DISP=SHR,DSN=ISP.SISPSLIB
//          DD DISP=SHR,DSN=GIM.SGIMSENU
..
//ISPTLIB DD DISP=SHR,DSN=ISP.SISPTENU
//          DD DISP=SHR,DSN=SYS1.DGTTLIB
..
..
..

```

The following is a partial listing of the ISPFPROC from the previous example after it has been modified to include the CAFC libraries. The changes have been indicated below. The double dots (..) indicate missing lines of information that have been removed to shorten the listing.

```

//*****
//*
//*          ISPF FULL-FUNCTION LOGON PROC
//*
//*****
//ISPFPROC EXEC PGM=IKJEFT01,REGION=0M,DYNAMNBR=175,
//          PARM='%ISPFCL'
//STEPLIB DD DISP=SHR,DSN=your.load.pds ← Addition of CAFC STEPLIB
//SYSUADS DD DISP=SHR,DSN=SYS1.UADS
//SYSLBC DD DISP=SHR,DSN=SYS1.BROADCAST
//SYSPROC DD DISP=SHR,DSN=SYS1.LOCAL.CLIST
//          DD DISP=SHR,DSN=ISP.SISPCLIB
..
..
//SYSEXEC DD DISP=SHR,DSN=ISP.SISPEXEC
//          DD DISP=SHR,DSN=SOMMVS.SGOSREXX
..
..
//SYSHELP DD DISP=SHR,DSN=SYS1.HELP
//          DD DISP=SHR,DSN=ISP.SISPHELP
..
..
//ISPMLIB DD DISP=SHR,DSN=your.ispf.ispmlib ← Addition of ISPMLIB
//          DD DISP=SHR,DSN=ISP.SISPMENU
//          DD DISP=SHR,DSN=SYS1.DFQMLIB
..
..

```

## MISCELLANEOUS CAFC UTILITIES

```
//ISPPEXEC DD DISP=SHR,DSN=ISP.SISPEXEC
//          DD DISP=SHR,DSN=SYS1.SBPPEXEC
//          ..
//          ..
//ISPLLIB DD DISP=SHR,DSN=GDDM.SADMMOD
//          ..
//          ..
//ISPPLIB DD DISP=SHR,DSN=you.ispf.ispplib ← Addition of ISPPLIB
//          DD DISP=SHR,DSN=SYS1.LOCAL.ISPFPNLS
//          DD DISP=SHR,DSN=ISP.SISPPENU
//          DD DISP=SHR,DSN=SYS1.DFQPLIB
//          ..
//          ..
//ISPSLIB DD DISP=SHR,DSN=ISP.SISPSLIB,UNIT=3390,VOL=SER=Z1RES1
//          DD DISP=SHR,DSN=GIM.SGIMSENU,UNIT=3390,VOL=SER=Z1RES1
//          ..
//          ..
//ISPTLIB DD DISP=SHR,DSN=you.ispf.isptlib ← Addition of ISPTLIB
//          DD DISP=SHR,DSN=ISP.SISPTENU,UNIT=3390,VOL=SER=Z1RES1
//          DD DISP=SHR,DSN=SYS1.DGTTLIB,UNIT=3390,VOL=SER=Z1RES1
//          ..
//          ..
//          ..
```

- b. Modify your ISPF primary option panel or other appropriate panel to include the CAFC ISPF Log Viewer. The following panel definition should be executed as a result of being selected. An example modified primary option panel is found in your.ispf.panel.library(#PRIMOPT)

To locate your primary option panel, examine the TSO procedure and find the ISPPLIB DDNAME. The ISR@PRIM member (default name for the primary option member) will be found in one of the first concatenations of libraries for this DDNAME. The following is a partial listing of the default ISPF primary option panel furnished by IBM (before modification). The panel you find may be slightly different than this example. The changes have been indicated below. The double dots (..) indicate missing lines of information that have been removed to shorten the listing.

```
)PANEL KEYLIST(ISRSAB,ISR) IMAGE(&ZIMGNAM,&ZIMGROW,&ZIMGCOL)
)ATTR DEFAULT(    ) FORMAT(MIX)          /* ISR@PRIM - ENGLISH - 5.0 */
 0B TYPE(AB)
 0D TYPE(PS)
 04 TYPE(ABSL) GE(ON)
  ..
  ..
)AREA SAREA39
0  Settings      Terminal and user parameters
1  View          Display source data or listings
2  Edit          Create or change source data
3  Utilities     Perform utility functions
4  Foreground    Interactive language processing
5  Batch         Submit job for language processing
6  Command       Enter TSO or Workstation commands
7  Dialog Test   Perform dialog testing
```

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```

8  LM Facility      Library administrator functions
9  IBM Products    IBM program development products
10 SCLM             SW Configuration Library Manager
11 Workplace       ISPF Object/Action Workplace
)INIT
..
..
)PROC
IF (&ZCSTF='1') .ATTR(GRPBOX1) = 'WIDTH(0)'
IF (.CURSOR = TMPROWS AND &ZCMD = ' ')
&ZSAR =TRANS(&ZSCREEN 1,&ZSAREA1 2,&ZSAREA2 3,&ZSAREA3 4,&ZSAREA4
  IF (&ZSAR = 'CAL','UPS','SES') &ZCMD = 'SP'
&ZSEL = TRANS (TRUNC (&ZCMD, '.'))
  0, 'PGM(ISPISM) SCRNAME(SETTINGS)'
  1, 'PGM(ISRBRO) PARM(ISRBRO01) SCRNAME(VIEW)'
  2, 'PGM(ISREDIT) PARM(P,ISREDM01) SCRNAME(EDIT)'
  3, 'PANEL(ISRUTIL) SCRNAME(UTIL)'
  4, 'PANEL(ISRFPA) SCRNAME(FOREGRND)'
  5, 'PGM(ISRJB1) PARM(ISRJPA) SCRNAME(BATCH) NOCHECK'
  6, 'PGM(ISRPTC) SCRNAME(CMD)'
  7, 'PGM(ISPYXDR) PARM(&ZTAPPLID) SCRNAME(DTEST) NOCHECK'
  8, 'PANEL(ISRLPRIM) SCRNAME(LMF)'
  9, 'PANEL(ISRDIIS) ADDPOP'
  10, 'PGM(ISRSCLM) SCRNAME(SCLM) NOCHECK'
  11, 'PGM(ISRUDA) PARM(ISRWORK) SCRNAME(WORK)'
  X,EXIT
SP, 'PGM(ISPSAM) PARM(PNS)'
' ',' '
*, '?' )
&ZTRAIL=.TRAIL
)PNTS
..
..
)END

```

The following is a partial listing of the modified ISPF primary option. The changes have been indicated below. The double dots (..) indicate missing lines of information that have been removed to shorten the listing.

```

)PANEL KEYLIST(ISRSAB,ISR) IMAGE(&ZIMGNAM,&ZIMGROW,&ZIMGCOL)
)ATTR DEFAULT(    ) FORMAT(MIX)      /* ISR@PRIM - ENGLISH - 5.0 */
0B TYPE(AB)
0D TYPE(PS)
04 TYPE(ABSL) GE(ON)
..
..
)AREA SAREA39
0  Settings      Terminal and user parameters
1  View          Display source data or listings
2  Edit          Create or change source data
3  Utilities     Perform utility functions
4  Foreground    Interactive language processing
5  Batch         Submit job for language processing
6  Command       Enter TSO or Workstation commands

```

## MISCELLANEOUS CAFC UTILITIES

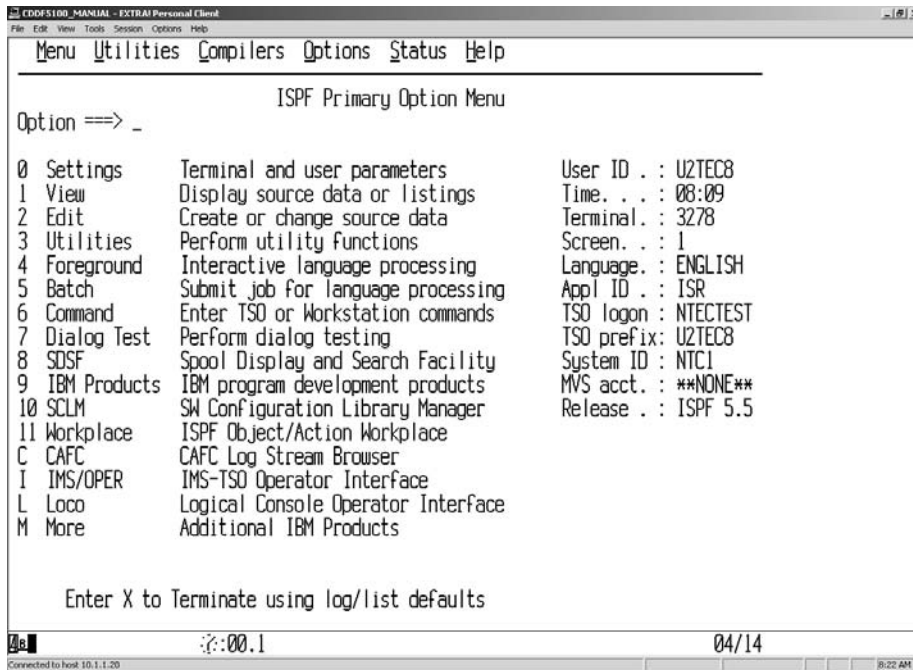
```

7  Dialog Test      Perform dialog testing
8  LM Facility      Library administrator functions
9  IBM Products     IBM program development products
10 SCLM              SW Configuration Library Manager
11 Workplace        ISPF Object/Action Workplace
C CAFC             CAFC Log Stream Viewer ← Addition
)INIT
    ..
    ..
)PROC
IF (&ZCSTF='1') .ATTR(GRPBOX1) = 'WIDTH(0)'
IF (.CURSOR = TMPROWS AND &ZCMD = ' ')
&ZSAR =TRANS(&ZSCREEN 1,&ZSAREA1 2,&ZSAREA2 3,&ZSAREA3 4,&ZSAREA4
  IF (&ZSAR = 'CAL','UPS','SES') &ZCMD = 'SP'
&ZSEL = TRANS (TRUNC (&ZCMD, '.'))
  0, 'PGM(ISPISM) SCRNAME(SETTINGS)'
  1, 'PGM(ISRBRO) PARM(ISRBRO01) SCRNAME(VIEW)'
  2, 'PGM(ISREDIT) PARM(P,ISREDM01) SCRNAME(EDIT)'
  3, 'PANEL(ISRUTIL) SCRNAME(UTIL)'
  4, 'PANEL(ISRFPA) SCRNAME(FOREGRND)'
  5, 'PGM(ISRJB1) PARM(ISRJPA) SCRNAME(BATCH) NOCHECK'
  6, 'PGM(ISRPTC) SCRNAME(CMD)'
  7, 'PGM(ISPYXDR) PARM(&ZTAPPLID) SCRNAME(DTEST) NOCHECK'
  8, 'PANEL(ISRLPRIM) SCRNAME(LMF)'
  9, 'PANEL(ISRDIIS) ADDPOP'
  10, 'PGM(ISRSCLM) SCRNAME(SCLM) NOCHECK'
  11, 'PGM(ISRUDA) PARM(ISRWORK) SCRNAME(WORK)'
  L, 'PGM(AFCP2600) NEWAPPL(CAFC) PASSLIB' ← Addition
  X,EXIT
SP, 'PGM(ISPSAM) PARM(PNS)'
  ' ', ' ', ' ', ' '
  *, '?' )
&ZTRAIL=.TRAIL
)PNTS
    ..
)END

```

The modified panel should look something like the following.

## MISCELLANEOUS CAFC UTILITIES



- c. Modify the IKJTSOxx SYS1.PARMLIB member to add the CAFC ISPF Log Viewer authorized program AFCP2610. AFCP2610 is called through the TSO Service Facility and needs to be added to the AUTHTSF list of programs. The following is an example of this addition.

```
AUTHTSF NAMES(          /* PROGRAMS TO BE AUTHORIZED */ +
                      /* WHEN CALLED THROUGH THE   */ +
                      /* TSO SERVICE FACILITY.      */ +
AFCP2610             /* CAFC TSO ISPF Log Viewer */ + ← Addition
CSFDAUTH              /* ICSF                      */ +
IEBCOPY               /*                          */ +
ICQASLI0              /*                          */ +
IKJEFF76              /*                          */ +
                      /*                          */ )
```

- d. Determine CAFC log record retention requirements.  
CAFC does not supply utilities to manage CAFC log records that are written to the MVS system logger. CAFC relies on the log stream definitions to specify archive and automatically delete CAFC log records. It is recommended that a log record retention period be established and this period be included in the log stream definition via the RETPD and AUTODELETE key words. The RETPD keyword should be used to specify the number of days to retain a log record and AUTODELETE(YES) should be specified to cause the records to be automatically deleted after the retention period has expired. It should be noted that the system logger deletes log records on a log dataset basis. The system logger will only delete a log data set after all log records found in the dataset have reached their RETPD period. This may result in CAFC log records being retained longer than the user would expect.  
The use of RETPD and AUTODELETE are only a recommendation and the user may architect their own solution for the archiving and deletion of CAFC log records.
- e. Determine if a DASDONLY log is right for the environment.

## MISCELLANEOUS CAFC UTILITIES

The MVS system logger will either create log streams on DASD or in a coupling facility structure. If the MVS system logger will be used to merge CAFC logs from multiple CICS systems it is necessary to decide if a DASDONLY or Coupling Facility log is correct. This is determined based on where the CICS systems execute that will product the merged logs. If all CICS systems that will participate in the merged log execute on the same MVS image, a DASDONLY log can be utilized. If the CICS systems that will participate in the merged log execute on more than one MVS image the coupling facility resident log is required. The information is necessary to determine the correct allocation of the log structures.

- f. Determine how large of staging datasets to allocate.  
The logger staging datasets are allocated and used by the logger to offload log records once the primary log structure has reach the HIGHOFFLOAD(%) specified in the log stream definition. The size of these data sets depends on the STG\_SIZE parameter setting in the log stream definition.
- g. Allocate MVS system logger log streams for use by CAFC logging.

If CAFC is to write log records to the MVS system logger, the logger must have been activated in the MVS environment. Specifics on how to activate the system logger subsystem can be found in the IBM documentation SA22-7625 MVS Setting Up a Sysplex - Preparing to Use System Logger Applications.

Once the system logger is active and the retention requirements for CAFC log records have been determined, it is necessary to allocate at least one log stream to receive log records. The following example assumes that log records will be retained for a minimum of 7 days on a DASDONLY log stream.

```
//U2DEFLOG JOB (NTC),'CICSTS 1.3',MSGCLASS=X,CLASS=A,
//          MSGLEVEL=(1,1),REGION=0M
//*
//*****
//**  THIS JOB WILL DEFINE THE DASD ONLY LOGS  *****
//*****
//LOGDEFN1 EXEC PGM=IXCMIAPU
//SYSPRINT DD   SYSOUT=*
//SYSIN      DD   *
DATA TYPE(LOGR) REPORT(NO)
DELETE LOGSTREAM NAME(TEST.LOG.STREAM1)
DEFINE LOGSTREAM
  NAME(TEST.LOG.STREAM1)
  DASDONLY(YES)
  HLQ(NETEC)                      ← High level qualifier for staging datasets
  MAXBUFSIZE(400)
  STG_SIZE(nnnn)                  ← nnnn is the number calculated above
  LS_SIZE(nnnn)                   ← nnnn is the number calculated above
  LOWOFFLOAD(60)
  HIGHOFFLOAD(80)
  AUTODELETE(YES)
  RETPD(7)                        ← Retention period determined above
LIST LOGSTREAM NAME(TEST.LOG.STREAM1) DETAIL(YES)
```

If a coupling facility log stream is to be used, first a coupling facility list structure must be defined as part of the CFRM policy. The following is an example of a CFRM Policy that contains a definition for a log stream structure for use with CAFC logging. This structure definition will hold a maximum of approximately 2000 CAFC log records. Coupling facility structures are usually maintained by the MVS system programming staff as part of



## MISCELLANEOUS CAFC UTILITIES

the CFRM policy. It may be necessary to involve the MVS system programming staff in the allocation and definition of this list structure.

```
//BLDCFRM2 JOB ( ),REGION=6M,
//  MSGCLASS=X,MSGLEVEL=(1,1),CLASS=A
//*****
/* Update the administration policy in the
/* Couple Data Set - CFRM (Coupling Facility Resource Manager)
//*****
//STEP1      EXEC PGM=IXCMIAPU
//SYSPRINT DD  SYSOUT=*
//SYSIN      DD  *
      DATA TYPE(CFRM) REPORT(YES)
      DEFINE POLICY NAME(POLICY2) REPLACE(YES)
        CF NAME(CF01)
          TYPE(007060)
          MFG(IBM)
          PLANT(02)
          SEQUENCE(00000001088A)
          PARTITION(4)
          CPCID(00)
          DUMPSPACE(1000)
        CF NAME(CF02)
          TYPE(007060)
          MFG(IBM)
            PLANT(02)
            SEQUENCE(00000001088A)
            PARTITION(5)
            CPCID(00)
            DUMPSPACE(1000)
          STRUCTURE NAME(IXCCF01)
            SIZE(10000)
            PREFLIST(CF01,CF02)
          STRUCTURE NAME(IXCCF02)
            SIZE(1000)
            PREFLIST(CF02,CF01)
          STRUCTURE NAME(IGWLOCK00)
            SIZE(1600)
            PREFLIST(CF01,CF02)
          STRUCTURE NAME(RLS_CACHE)
            SIZE(4000)
            PREFLIST(CF02,CF01)
          STRUCTURE NAME(CAFC_LOG)          ← Addition for CAFC Logs
            SIZE(1000)                      ← Addition for CAFC Logs
            PREFLIST(CF02,CF01) ← Addition for CAFC Logs
```

The following example assumes that log records will be retained for a minimum of 7 days on a Coupling Facility resident log stream.

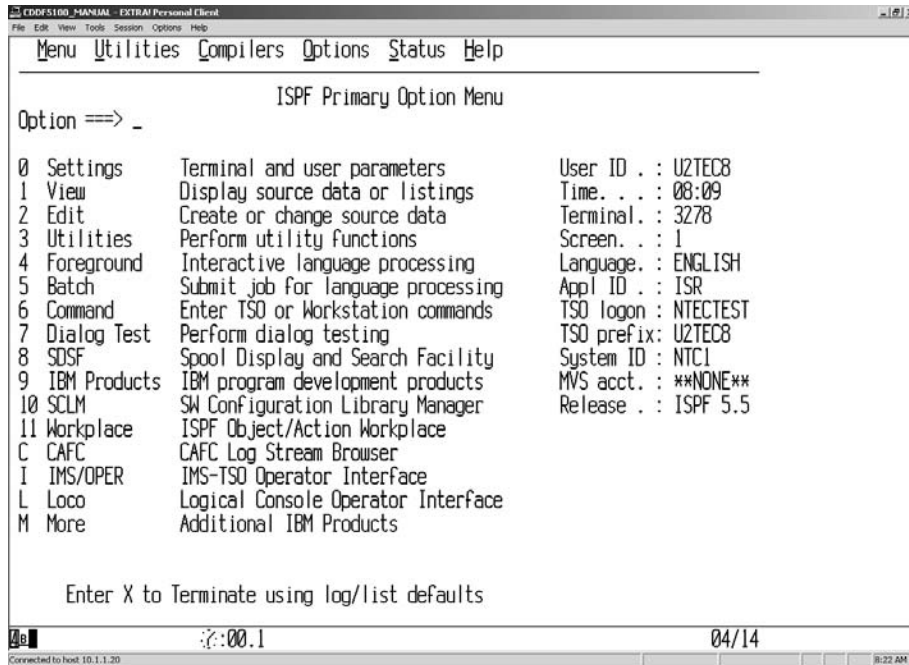
```
//U2DEFLOG JOB (NTC),'CICSTS 1.3',MSGCLASS=X,CLASS=A,
//  MSGLEVEL=(1,1),REGION=0M
//*
//*****
/** THIS JOB WILL DEFINE THE COUPLING FACILITY LOGS ***
//*****
//LOGDEFN1 EXEC PGM=IXCMIAPU
//SYSPRINT DD  SYSOUT=*
//SYSIN      DD  *
DATA TYPE(LOGR) REPORT(NO)
DELETE LOGSTREAM NAME(TEST.LOG.STREAM.CF)
```

## MISCELLANEOUS CAFC UTILITIES

```
DEFINE STRUCTURE NAME(CAFC_LOG)
  LOGSNUM(16)           ← Indicate max logstreams for this structure
DEFINE LOGSTREAM
  NAME(TEST.LOG.STREAM.CF)
  DASDONLY(NO)
  STRUCTURE(CAFC_LOG)   ← Must match the structure name defined above
  STG_DUPLEX(YES)
  HLQ(NETEC)            ← High level qualifier for staging datasets
  STG_SIZE(nnnn)        ← nnnn is the number calculated above
  LOWOFFLOAD(60)
  HIGHOFFLOAD(80)
  AUTODELETE(YES)
  RETPD(7)              ← Retention period determined above
LIST  LOGSTREAM NAME(TEST.LOG.STREAM.CF) DETAIL(YES)
```

## MISCELLANEOUS CAFC UTILITIES

As a user selectable option, CAFC will create log records to one or more MVS System Logger log streams. CAFC provides an ISPF based program that will give users the ability to browse these log records. To invoke the CAFC Log Viewer the user must be logged on with a TSO procedure that has been modified to support the CAFC Log Viewer. The following displays an ISPF primary option panel that has been modified to support the CAFC log viewer.



**Selecting option C and pressing enter starts the CAFC Log Viewer and the following screen will be displayed.**

## MISCELLANEOUS CAFC UTILITIES

```

----- CAFC REL 4.4.00 ISPF LOG VIEWER -----
Command ==> _

Log Stream Name to View TEST.LOG.STREAM1

===== Specify Selection Filters =====
CICS APPLID      Job Name      Job Number
Start Date      Start Time
End Date        End Time
Userid          Terminal
Log Type        (CR, ER, EC, CO, SV, SR)
Record Type
Resource Name

USERID - U2TEC8
TERMINAL - 3278
TIME - 08:12
DATE - 05/08/27

Trace is active

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00:00.1 03/15
Connected to host 10.1.1.20

```

This screen is the main log stream selection screen for the CAFC ISPF Log stream Viewer. The user must specify the name of the Log Stream that is to be displayed. Optionally, additional selection criteria can be specified that will limit the log records that are going to be displayed. By specifying the log stream name and pressing enter the MVS log stream will be scanned and any CAFC log records that meet the selection criteria will be displayed to the user. The following screen will result while the log stream is being scanned. If there are a large number of log records this operation could take some time. An activity indicator will "spin" on the screen as the log records are scanned.

## MISCELLANEOUS CAFC UTILITIES

CDOS100 - MANUAL - EXTRA Personal Client

CAFC REL 4.4.00 ISPF LOG VIEWER

Command ==>

Log Stream Name to View: LOGGER.TEST.PROGRAM

USERID - U2TEC8  
 TERMINAL - 3278  
 TIME - 08:14  
 DATE - 05/08/27

Specify Selection Filters

CICS APPLID      Job Name      Job Number

Start Date      Start Time

End Date      End Time

Userid      Terminal

Log Type      (CR, ER, EC, CD, SV, SR)

R

R Please wait, the log is being scanned which may take several minutes. /

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05:05.9 20/05

Connected to host 10.1.1.20

**After the log stream has been scanned and if there were log records present that met the selection criteria, the records will be displayed. The following screen is an example of log records being displayed.**

CDOS100 - MANUAL - EXTRA Personal Client

CAFC REL 4.4.00 ISPF LOG VIEWER

CAFC Log Stream ==> LOGGER.TEST.PROGRAM

Command ==>

Scroll ==> CSR

DATE	TIME	APPLID	ID	ITEM	TP	REQUEST	MSG#	MESSAGE TEXT
07132005	134402	CICS990	CR	AFCPLERR	DT	WARMSTRT	0000	DRS=OE WS=O E
07132005	134402	CICS990	CR	AFCPLCOR	DT	WARMSTRT	0000	DRS=OE WS=O E
07132005	134402	CICS990	CR	AFCIRDR	DO	WARMSTRT	0000	DRS=A WS=A X XX
07132005	134402	CICS990	CR	\$TEST	DO	WARMSTRT	0000	DRS=F WS=F X XX
07132005	134406	CICS990	CR	AFCPLSEC	DT	WARMSTRT	0000	DRS=OE WS=O E
07132005	134409	CICS990	CR	BASE	DO	WARMSTRT	0953	RLS FILE DSN SET --> FCT
07132005	134429	CICS990	CR	CAFF	DT	WARMSTRT	0000	DRS=OE WS=O E
07132005	134429	CICS990	CR	CAFCLSTA	DT	WARMSTRT	0000	DRS=OE WS=O E
07132005	134429	CICS990	CR	CAFCLSEC	DT	WARMSTRT	0000	DRS=OE WS=O E
07132005	134429	CICS990	CR	CAFCLERR	DT	WARMSTRT	0000	DRS=OE WS=O E
07132005	134429	CICS990	CR	CAFCLDCT	DT	WARMSTRT	0000	DRS=OE WS=O E
07132005	134429	CICS990	CR	CAFCLCUS	DT	WARMSTRT	0000	DRS=OE WS=O E
07132005	134429	CICS990	CR	CAFCLCOR	DT	WARMSTRT	0000	DRS=OE WS=O E
07132005	134429	CICS990	CR	BASE	DO	WARMSTRT	0000	DRS=OERO WS=O E RO
07132005	134429	CICS990	CR	CAFINTRA	DT	WARMSTRT	0000	DRS=FE WS=F E
07132005	134429	CICS990	CR	CAFCTRAC	DO	WARMSTRT	0000	DRS=A WS=A X XX
07132005	134430	CICS990	CR	CDUT	DT	WARMSTRT	0000	DRS=OE WS=O E
07132005	134430	CICS990	CR	CEEDOUT	DT	WARMSTRT	0000	DRS=OE WS=O E
07132005	134430	CICS990	CR	CEEMSG	DT	WARMSTRT	0000	DRS=OE WS=O E

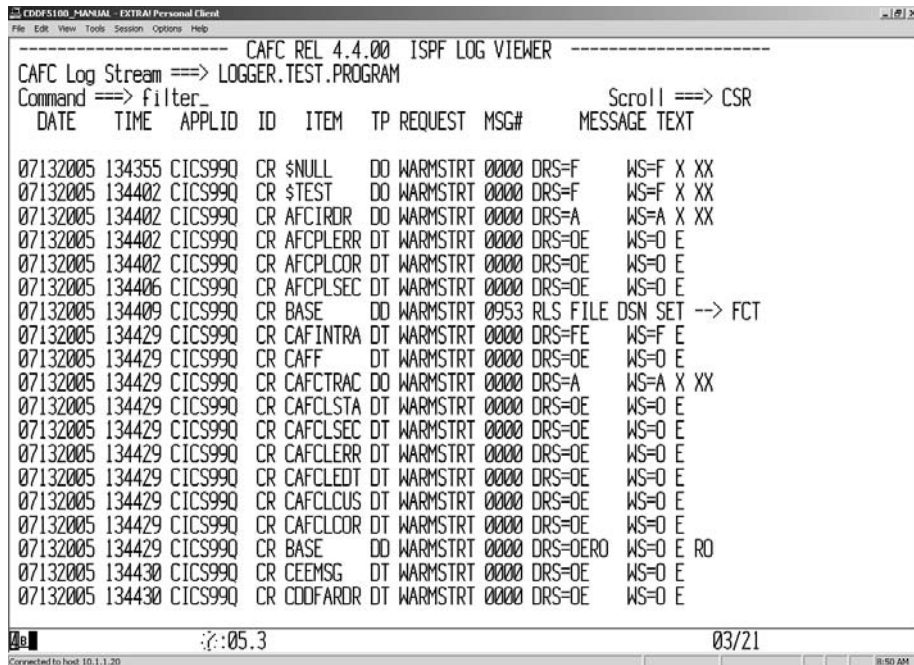
03/15

Connected to host 10.1.1.20

PF keys are now active so the user can scroll forward (PF8), backward (PF7), left (PF10) and right (PF11) in the records that have been selected for display. There are several commands that may be issued from the command line at the top of the screen. The commands are Filter, Find (PF5), Rfind (PF6), Sort, Trace, and Reset.

## Filter Command

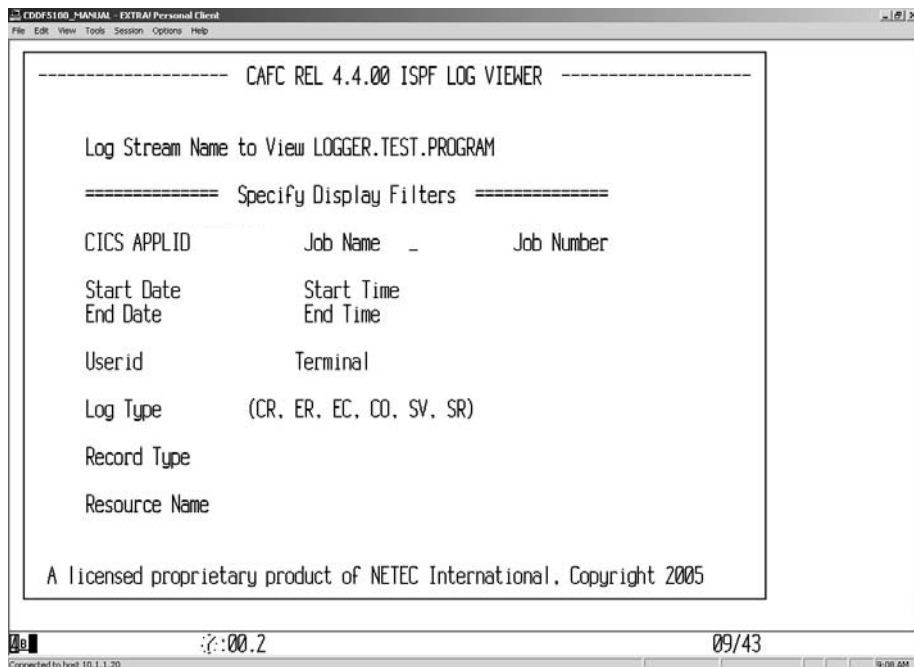
The filter command can be used to further restrict the log records to be displayed. The Filter command is entered as indicated below.



```

----- CAFC REL 4.4.00 ISPF LOG VIEWER -----
CAFC Log Stream ==> LOGGER.TEST.PROGRAM
Command ==> filter_                               Scroll ==> CSR
  DATE    TIME  APPLID  ID   ITEM  TP REQUEST  MSG#    MESSAGE TEXT
-----
07132005 134355 CICS990 CR $NULL DO WARMSTRT 0000 DRS=F  WS=F X XX
07132005 134402 CICS990 CR $TEST DO WARMSTRT 0000 DRS=F  WS=F X XX
07132005 134402 CICS990 CR AFCIRDR DO WARMSTRT 0000 DRS=A  WS=A X XX
07132005 134402 CICS990 CR AFCPLERR DT WARMSTRT 0000 DRS=OE  WS=O E
07132005 134402 CICS990 CR AFCPLCOR DT WARMSTRT 0000 DRS=OE  WS=O E
07132005 134406 CICS990 CR AFCPLSEC DT WARMSTRT 0000 DRS=OE  WS=O E
07132005 134409 CICS990 CR BASE DO WARMSTRT 0953 RLS FILE DSN SET --> FCT
07132005 134429 CICS990 CR CAFINTRA DT WARMSTRT 0000 DRS=FE  WS=F E
07132005 134429 CICS990 CR CAFF DT WARMSTRT 0000 DRS=OE  WS=O E
07132005 134429 CICS990 CR CAFCTRAC DO WARMSTRT 0000 DRS=A  WS=A X XX
07132005 134429 CICS990 CR CAFCLSTA DT WARMSTRT 0000 DRS=OE  WS=O E
07132005 134429 CICS990 CR CAFCLSEC DT WARMSTRT 0000 DRS=OE  WS=O E
07132005 134429 CICS990 CR CAFCLERR DT WARMSTRT 0000 DRS=OE  WS=O E
07132005 134429 CICS990 CR CAFCLDT DT WARMSTRT 0000 DRS=OE  WS=O E
07132005 134429 CICS990 CR CAFCLCUS DT WARMSTRT 0000 DRS=OE  WS=O E
07132005 134429 CICS990 CR CAFCLCOR DT WARMSTRT 0000 DRS=OE  WS=O E
07132005 134429 CICS990 CR BASE DO WARMSTRT 0000 DRS=OERO WS=O E RO
07132005 134430 CICS990 CR CEEMSG DT WARMSTRT 0000 DRS=OE  WS=O E
07132005 134430 CICS990 CR CODIFARDR DT WARMSTRT 0000 DRS=OE  WS=O E
  
```

After pressing enter, the display filter criteria screen will be displayed. The following is an example of this screen.



```

----- CAFC REL 4.4.00 ISPF LOG VIEWER -----

Log Stream Name to View LOGGER.TEST.PROGRAM

===== Specify Display Filters =====

CICS APPLID          Job Name  _      Job Number

Start Date          Start Time
End Date            End Time

Userid              Terminal

Log Type            (CR, ER, EC, CO, SV, SR)

Record Type

Resource Name

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```

## MISCELLANEOUS CAFC UTILITIES

Additional display selection filters may be input on this screen. In this example, the user is asking to have the displayed log records restricted to the CICS Applid CICS99Q. After pressing enter the resulting display will contain only log records created by the CICS Applid CICS99Q.

The screenshot shows a terminal window titled "CD065100\_MANUAL - EXTRA Personal Client". Inside the window is a screen titled "CAFC REL 4.4.00 ISPF LOG VIEWER". The screen displays the following text:

```
----- CAFC REL 4.4.00 ISPF LOG VIEWER -----  
  
Log Stream Name to View: LOGGER.TEST.PROGRAM  
  
===== Specify Display Filters =====  
  
CICS APPLID CICS99Q   Job Name   _   Job Number  
  
Start Date           Start Time  
End Date             End Time  
  
Userid               Terminal  
  
Log Type             (CR, ER, EC, CO, SV, SR)  
  
Record Type  
  
Resource Name  
  
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```

At the bottom of the window, there is a status bar showing "Connected to host: 10.1.1.20", a timer "00:00.2", and a page indicator "09/43".

## **Find and Rfind Commands**

The Find and Rfind commands can be used to locate specific character strings found in the log records. The Find command may be abbreviated to F. The search for the specified characters will begin at the beginning of the first log record currently being displayed and move forward through all of the log records currently selected for display. The Rfind command or Repeat Find command will locate the next occurrence of the character string entered as part of the Find command.

When a character string is located, it will be highlighted and the cursor will be placed under the first position of the located character string.



## Sort Command

The Sort command is used to reorder log records that are currently being displayed. The sort command can only be issued from the command line of the viewer screen. The format of the Sort commands is as follows.

**Sort** *Field* A/D

*Field* is the name of the column to sort on. A/D is optional and indicates whether to sort in ascending or descending order. The default for this parameter is A. The field and A/D parameters may be repeated as many times as required to produce the desired sort results. The following are the valid *Field* names.

<b>Field</b>	<b>Description</b>
DATE	Sort the records in date/time sequence.
TIME	Sort the records in date/time sequence.
APPLID	Sort the records by the CICS Applid that created the log record.
ID	Sort the records by the log record type.
ITEM	Sort the records by the item for which the log record was created.
TP	Sort the records by the resource type.
TYPE	Sort the records by the resource type.
REQUEST	Sort the records by the request type.
REQ	Sort the records by the request type.
MSG#	Sort the records by the message number.
MSGTEXT	Sort the records by the message text.
JNAME	Sort the records by the job name that created the log records.
JNUMBER	Sort the records by the job number that created the log records.
PROGRAM	Sort the records by the program name that created the log records.
USERID	Sort the records by the userid that created the log records.
TERM	Sort the records by the terminal name that created the log records.

### Example

<b>Command</b>	<b>Results</b>
<b>SORT APPLID A DATE TIME</b>	Sort the display records by the Applid that created the records and in time sequence within the Applid.

## MISCELLANEOUS CAFC UTILITIES

### Trace Command

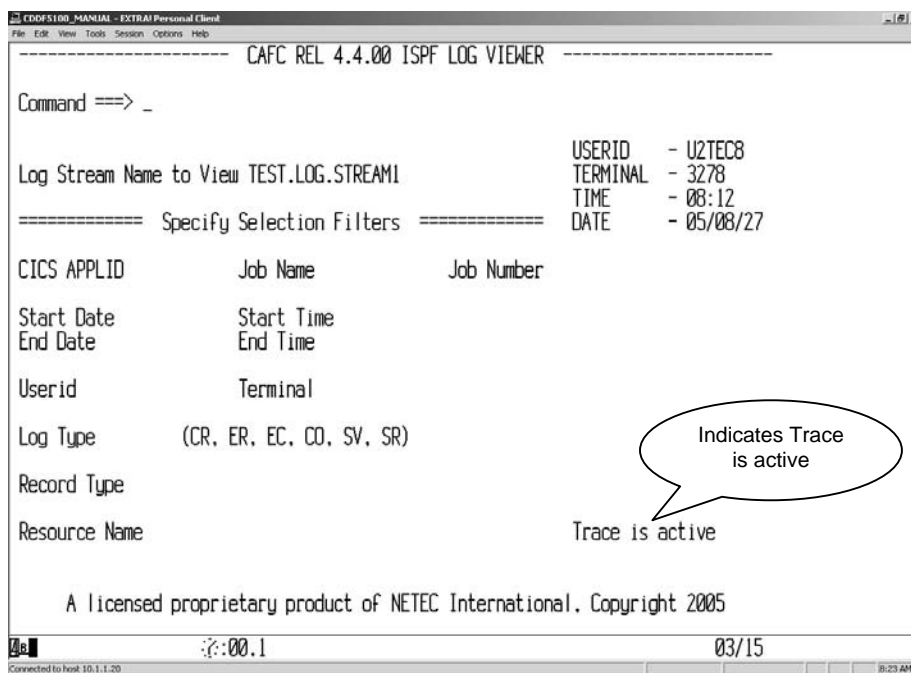
The Trace command is used to activate or deactivate the NETEC International internal trace facility from either the initial selection screen or the viewer screen. The trace output will go to a DD Statement of //CAFCTRAC DD SYSOUT=A as part of the TSO Userid job. A different SYSOUT class can be specified by add a //CAFCTRAC DD statement to your TSO proc. To activate trace the following command is entered on the command line.

### TRACE ON

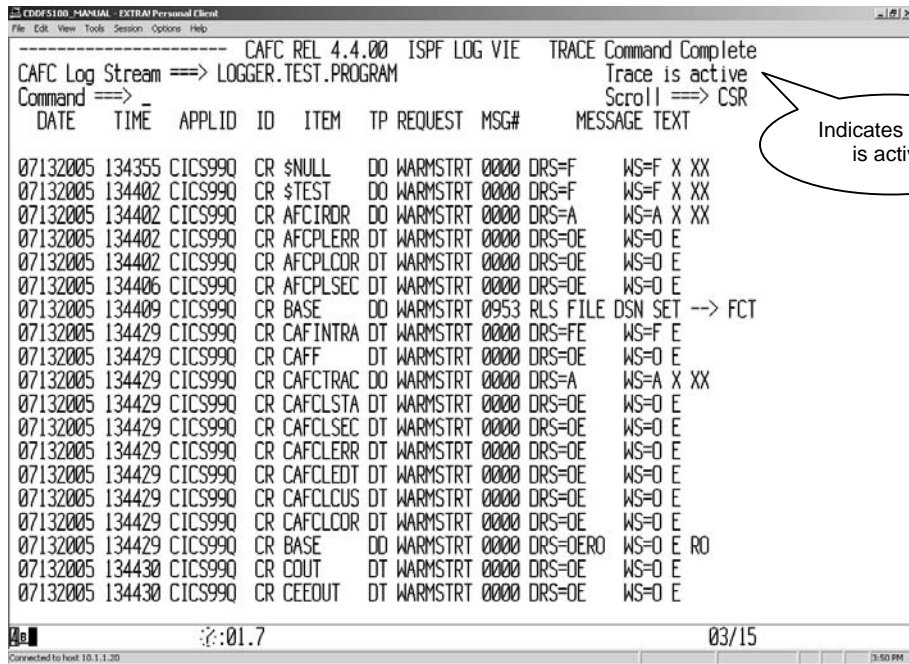
To Deactivate trace the following command is entered on the command line.

### TRACE OFF

The trace command can be entered from either the log viewer selection screen as well as the log viewer browse screen. The status of trace will be maintained across CAFC Log Viewer sessions. When trace is activated it be indicated on both the selection screen and the browse screen as indicated in the following examples.



## MISCELLANEOUS CAFc UTILITIES



CAFc REL 4.4.00 ISPF LOG VIE TRACE Command Complete

CAFc Log Stream ==> LOGGER.TEST.PROGRAM

Command ==> Trace is active

Scroll ==> CSR

DATE	TIME	APPLID	ID	ITEM	TP	REQUEST	MSG#	MESSAGE TEXT
07132005	134355	CICS990	CR	\$NULL	DO	WARMSTRT	0000	DRS=F WS=F X XX
07132005	134402	CICS990	CR	\$TEST	DO	WARMSTRT	0000	DRS=F WS=F X XX
07132005	134402	CICS990	CR	AFCIRDR	DO	WARMSTRT	0000	DRS=A WS=A X XX
07132005	134402	CICS990	CR	AFCPLERR	DT	WARMSTRT	0000	DRS=OE WS=O E
07132005	134402	CICS990	CR	AFCPLCOR	DT	WARMSTRT	0000	DRS=OE WS=O E
07132005	134406	CICS990	CR	AFCPLSEC	DT	WARMSTRT	0000	DRS=OE WS=O E
07132005	134409	CICS990	CR	BASE	DO	WARMSTRT	0953	RLS FILE DSN SET --> FCT
07132005	134429	CICS990	CR	CAFINTRA	DT	WARMSTRT	0000	DRS=FE WS=F E
07132005	134429	CICS990	CR	CAFF	DT	WARMSTRT	0000	DRS=OE WS=O E
07132005	134429	CICS990	CR	CAFCTRAC	DO	WARMSTRT	0000	DRS=A WS=A X XX
07132005	134429	CICS990	CR	CAFCLSTA	DT	WARMSTRT	0000	DRS=OE WS=O E
07132005	134429	CICS990	CR	CAFCLSEC	DT	WARMSTRT	0000	DRS=OE WS=O E
07132005	134429	CICS990	CR	CAFCLERR	DT	WARMSTRT	0000	DRS=OE WS=O E
07132005	134429	CICS990	CR	CAFCLDT	DT	WARMSTRT	0000	DRS=OE WS=O E
07132005	134429	CICS990	CR	CAFCLCUS	DT	WARMSTRT	0000	DRS=OE WS=O E
07132005	134429	CICS990	CR	CAFCLCOR	DT	WARMSTRT	0000	DRS=OE WS=O E
07132005	134429	CICS990	CR	BASE	DO	WARMSTRT	0000	DRS=OERO WS=O E RO
07132005	134430	CICS990	CR	COUT	DT	WARMSTRT	0000	DRS=OE WS=O E
07132005	134430	CICS990	CR	CEEDUT	DT	WARMSTRT	0000	DRS=OE WS=O E

Indicates Trace is active

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Connected to host: 10.1.1.20

### Example

Command	Results
TRACE ON	Activate the internal trace.
TRACE OFF	Deactivate the internal trace.

## **Reset Command**

The Reset command is used to reset the fields that have been highlighted as the results of a Find or Rfind command. The command can only be issued from the CAFC log browse screen. The Reset command can also be abbreviated as Res. The format of the reset command is as follows.

**RESET**

**RES**

## CAFC SUPPORT TRANSACTIONS

### CAFC SUPPORT TRANSACTIONS

The CAFC system is shipped with several built-in transactions to aid in its operation. Below is a description of their function.

AFAC	This transaction verifies that CAFC's proprietary APF authorization method has been successfully installed.
AFC2	This transaction is the main on-line CAFC transaction.
* AFC4	This is an internal transaction used to deliver messages for the CAFC Message Facility to terminals.
AFC5	This transaction is the on-line CAFC Table File maintenance transaction.
* AFC8	This transaction executes the program AFCPTRST which is used to write trace records to CAFCTRAC.
* AFC9	This transaction is the internal automatic services transaction. It controls automatic allocates/deallocates and automatic enables/disables.
AFCE	This transaction is the on-line component of the LU6.2 Batch Interface. AFCE's priority should be set to 255 to insure prompt response for B/I requests.
AFCC	This transaction provides direct, command line support for CAFC requests coming from 3270 terminals. AFCC is an alternative, shortcut method for entering CAFC requests without invoking the menu driven, full screen AFCS transid.
* AFCE	This transaction supports executions of CICS programs started from the B/I using the XCTL request.
AFCI	This transaction is the on-line component of the EXCI Batch Interface. AFCI's priority should be set to 255 to insure prompt response for B/I requests.

**CAFC SUPPORT TRANSACTIONS - CONTINUED**

- \* AFCM      This is a special purpose transaction that supports data set name changes through B/I dsname change requests.
- \* AFCQ      This is an internal transaction used to deliver CAFC shutdown messages to the terminal where the CEMT P,SHUT originated.
- AFCR      Activates CAFC traces.
- AFCS      With no operand starts the full screen CAFC system.
- AFCT,DEQ    This transaction/operand releases the OS enqueue "AFCF4000",CICS applid.
- AFCT,OVER   This transaction/operand runs the CAFC requests stored in the CAFCOVER data set.
- AFCT,SHUTDOWN   This transaction/operand: (1) enqueues on the CAFC Table File to prevent B/I activity, (2) quiesces currently active CAFC activities, (3) removes CAFC's extemd CICS support functions, (4) sets shutdown status condition to normal, (5) closes and frees the CAFC Table file, (6) releases the enqueue on the CAFC Table File and (7) terminates CAFC's service program, AFCP2109.
- AFCT,START    This transaction/operand: (1) allocates and opens the CAFC Table File, AFCF4000, (2) sets startup status condition to normal, (3) activates CAFC's extended CICS support functions, and (4) activates AFCP2109, CAFC's service program. These procedures are normally done by CAFC's PLTPI initialization program, AFCP2010.
- AFCT,STATE    This transaction/operand displays the status of various CAFC facilities such as which extended facilities are active.
- AFCT,WARM    This transaction/operand causes CAFC to perform a limited CAFC WARM start. It can be used in lieu of the program AFCP2010 to initiate a limited CAFC WARM start after CICS is active. This transaction should be followed by an AFCT,OVER to process any requests residing the CAFCOVER early request queue.
- \* AFCZ      AFC Allocation/Free program. This program is posted by AFCPXCS to perform Allocation/Free requests.

## CAFC SUPPORT TRANSACTIONS

### CAFC SUPPORT TRANSACTIONS - CONTINUED

AFCX            This transaction is used to complete 'EXEC' command from AFCP2016.

\* AFSG          This transaction is used to initiate a secure CICS/RACF sign-on for the Batch Terminal Processor.

AFDB            This transaction provides the user the ability to start or stop the DB Control/CICS interface with a single command versus the multiple transaction interaction that is necessary with CICS supplied transaction CEDB.

AFSQ            This transaction supports CAFC requests coming from a sequential terminals, operator consoles and other non-3270 device. AFSQ is an alternative, shortcut method of entering CAFC requests without invoking the menu driven, screen AFCS transid.

AFST            This transaction provides a shortcut for displaying the status of any CAFC Table File entry. The entry parameters are an entry type followed by the entry name, for example 'AFST S,G,PAYROLL'. This would return the status of the group named PAYROLL.

AFXX            This transaction provides diagnostic information regarding RPL concatenation. It will attempt to display all facilities that have an the ddname DFHRPL open.

SHUT            This transaction will issue a modify command to shut down CICS from the B/I. For proper execution, SHUT requires the console terminal definition 'CJCL' found in CICS group DFH\$CNSL. Check that this terminal is available to CICS prior to execution of this transaction.

SINK            This transaction runs the SINK transaction which in turn updates the desired restart status fields of CAFC table file records from the current status of corresponding CICS control tables. The SINK transaction can be run stand-alone.

SRCH            This transaction requires a target program name. The logic presents a screen with a list with all of the occurrences of the program within the current DFHRPL concatenation. It also flags the library that contains the currently loaded copy.

**\*        Transaction should not be secured.**

# CAFC INSTALLATION CONTENTS

## CAFC.INSTLIB

Member	Mode	Description
@INST000	JCL	Restore installation library to disk.
@INST045	JCL	Restore CAFC distribution Maclib and Loadlib
@INST020	JCL	Define VSAM cluster and restore CAFC Table File and Message File.
@INST030	JCL	Repro existing CAFC Table File to new one.
@INST050	JCL	Define and load a temporary DFHCSD file containing a group for CAFC programs and transactions and other groups defining CAFC's LU6.2 and LU0 terminal entries.
@INST060	JCL	Move CAFC's RDO entries to your DFHCSD file and add them to the GRPLIST that is installed at CICS startup.
@INST070	JCL	Conversion step jcl.
@INST20C	JCL	Define VSAM cluster and restore CAFC Table File and Message File. Use for CD or FTP installations.
@INST45C	JCL	Restore CAFC distribution Maclib and Loadlib Use for CD or FTP installations.
@INST50C	JCL	Define and load a temporary DFHCSD file containing a group for CAFC programs and transactions and other groups defining CAFC's LU6.2 and LU0 terminal entries. Use for CD or FTP installations.
AFCPBOEX	PGM	Source for sample CAFC Batch program which links to LU0 processor.
AFCPBOPG	PGM	Source for the sample CAFC Batch program which passes batch return code to online screen.
AFCPBTX1	PGM	Source for the sample CAFC Batch Terminal Processor Receive Data Exit.
AFCPDCOM	PGM	DATA COM/DB user exit equivalent to AFCP2UEX
AFCPDCOL	PGM	DATA COM/DB command level interface to DCCOCPR
AFCPLNK8	PGM	Source for sample CAFC program to link to AFCP2008.
AFCPL216	PGM	Source for sample CAFC program to link to AFCP2016.
AFCPRDAM	PGM	Source for the sample CAFC User Exit to support RDAM Access Method.
AFCP2ACF	PGM	Source for the sample CAFC External Security Program for ACF2 users.
AFCP2BCC	PGM	Source for the CAFC Batch Interface Control Card Exit.
AFCP2BS2	PGM	Source code for a sample Batch Interface Security Exit Program alternative.
AFCP2BSX	PGM	Source code for a sample Batch Interface Security Exit Program.
AFCP2CCX	PGM	Source code for the sample Batch Interface Condition Code exit program.



# CAFC INSTALLATION CONTENTS

## CAFC.INSTLIB CONTINUED

AFCP2PLT	PGM	Source for the sample CAFC PLT Initialization Program.
AFCP2RCF	PGM	Source for the sample CAFC External Security Program for RACF users.
AFCP2SO2	PGM	Source code for a sample Batch Interface Sign-on/Sign-off Exit Program alternative.
AFCP2SOX	PGM	Source code for the CAFC-supplied Batch Interface Sign-on/Sign-off Exit Program.
AFCP2TSS	PGM	Source for the sample CAFC External Security Program for Top Secret users.
AFCP2UEX	PGM	Source for the sample CAFC allocation user exit
AFCTDLI	TABLE	Release dependent DLI table
AFCT1000	TABLE	MRO Applid Table
AFCT2016	TABLE	Source for the sample CAFC CICS/Batch Interface APPLID Association Table.
AFCT2216	TABLE	Source for the sample CAFC CICS/Batch Interface APPLID Association Table.
AFCT2060	TABLE	CEMT return code conversion table.
ASMPBOPG	JCL	Sample Jcl to assemble the AFCPBOPG.
ASMPBTX1	JCL	Sample Jcl to assemble the Batch Receive Data Exit.
ASMPDCOL	JCL	Sample Jcl to assemble the DATACOM/DB Exit.
ASMPDCOM	JCL	Sample Jcl to assemble the DATACOM/DB Exit.
ASMP216	JCL	Sample Jcl to assemble relink AFCP2016.
ASMPZP00	JCL	Sample Jcl to assemble DFSPZP00.
ASMP2ACF	JCL	Sample JCL to assemble the ACF2 sample External Security Program
ASMP2BCC	JCL	JCL to assemble CAFC Batch Interface Control Card Exit.
ASMP2BSX	JCL	JCL to assemble CAFC Batch Interface Security Exit Program.
ASMP2CCX	JCL	Sample JCL to assemble the Batch Interface Condition Code exit program.
ASMP2RCF	JCL	Sample JCL to assemble the RACF sample External Security Program
ASMP2SOX	JCL	Sample JCL to assemble the Batch Sign-on Exit.
ASMP2TSS	JCL	Sample JCL to assemble the Top Secret ACF2 sample External Security Program
ASMP2UEX	JCL	Sample JCL to assemble the Allocation/Free/Open/Close User Exit Program.
ASMTXCLD	JCL	Sample JCL used to assemble AFCTXCLD exclude table.
ASMT2016	JCL	Sample JCL used to assemble the CAFC Batch Interface APPLID Association Table.

# CAFC INSTALLATION CONTENTS

## CAFC.INSTLIB - CONTINUED

ASMT1000	JCL	Sample Jcl to assemble AFCT1000.
ASMT2060	JCL	Sample Jcl to assemble AFCT2060.
ASMT2216	JCL	Sample Jcl to assemble AFCT2216.
CAFCBRPT	JCL	Sample JCL to print CAFC Table File entries.
CAFCCTLR	JCL	Sample JCL to print CAFC Table File Control Record.
CAFCVDD	JCL	Sample JCL to convert JCL DDcards to CAFC Table entries.
CAFCPLTI	TABLE	CAFC PLT Entries (Initialization).
CAFCPLTS	TABLE	CAFC PLT Entries (Shutdown).
CAFCCTCT	TABLE	CAFC TCT Entries for Batch Interface System in a single CPU environment.
CAFCCTCT2	TABLE	CAFC TCT Entries for Batch Interface System in a dual CPU environment.
CAFCUNLK	JCL	Sample JCL to unlink DFHOCP.
CAFCXFER	JCL	Sample JCL to transfer CAFC Table File records from one CAFC Table File to another Table File.
CAFCXLT	TABLE	CAFC XLT entries for Batch Interface System.
CAFVT71C	TABLE	CAFC LU6.2 VTAMLST CDRSC Entry for Batch Interface System for CPU 1 in a dual CPU environment.
CAFVT72	TABLE	CAFC LU6.2 VTAMLST APPLID Entry for Batch Interface System for CPU 2 in a dual CPU environment.
CAFVT72C	TABLE	CAFC LU6.2 VTAMLST CDRSC Entry for Batch Interface System for CPU 2 in a dual CPU environment.
CAFVT7A	TABLE	CAFC LU6.2 VTAMLST APPLID Entry for BATCH Interface System in a single CPU environment or the CAFC VTAMLST APPLID Entry for Batch Interface System for CPU 1 in a dual CPU environment.
CTLCUP	JCL	Sample Jcl to process job to reset CTLCUP flag in ctlrcl.
DFHXCOPT	JCL	CICS EXCI options table.
DFSOAEDR	JCL	Sample Jcl to link DFSAOEDR.
DFSAOENT	JCL	Sample Jcl to link DFSAOENT.
DFSPZP00	JCL	Sample DFSPZP table.
LINK2016	JCL	Sample Jcl to link to AFCP2016.
LU0APPL	TABLE	Sample Vtam Appl for LU0 support
LU0TCT0	TABLE	Sample TCT Entry for LU0 support
LU0TCT6	TABLE	Sample LU6.2 TCT entry with USERSEC=IDENTIFY.
TCTSEQT	TABLE	Sample table entries for installing a sequential terminal.
TCTSEQX	TABLE	Sample table entries for installing sequential terminal SEQX.

# CAFC INSTALLATION CONTENTS

## CAFC.LOADLIB

Member	Mode	Description
AFCM20A	MAP	Error Message List Panel.
AFCM20B	MAP	Sign-on Panel.
AFCM20C	MAP	Password Maintenance Panel.
AFCM20D	MAP	CAFC status panel
AFCM20K	MAP	Help Screen Page Header Panel.
AFCM20L	MAP	Standalone Allocation Function Panel.
AFCM20M	MAP	DBD DDname Table Edit Panel.
AFCM20O	MAP	MRO CICS Selection Panel.
AFCM20S	MAP	Customization Options Menu.
AFCM20V	MAP	Trace Options Panel.
AFCM20Y	MAP	Message Maintenance Panel.
AFCM201	MAP	Primary Option Menu.
AFCM202	MAP	Edit Entry Panel.
AFCM203	MAP	Table Entry List Panel.
AFCM204	MAP	Edit entry panel
AFCM208	MAP	Function Menu.
AFCM209	MAP	Function Entry List Panel.
AFCM21L	MAP	Message Customization Option Menu
AFCM21M	MAP	Message Entry Customization Entry Edit
AFCM21N	MAP	Application Message Entry Edit
AFCM21O	MAP	Message Table List
AFCM21P	MAP	Application Message Entry Edit
AFCM21Q	MAP	Sub-List Routing Entry Edit
AFCM21R	MAP	Application Message Entry Edit
AFCM21S	MAP	Routing List Browse Display
AFCM21T	MAP	Global Routing Screen
AFCM212	MAP	AFCP2102 Report entry
AFCM213	MAP	AFCP2102 table entry list
AFCM214	MAP	AFCP2102 progress line
AFCM218	MAP	AFCP2107 RDO request menu
AFCM220	MAP	Table Maintenance Screen
AFCM225	MAP	Application & Group Table Entry Edit Screen
AFCM226	MAP	CAFC Support Functions Menu
AFCM227	MAP	Application & Group Table Browse Screen
AFCM238	MAP	Function Menu
AFCM239	MAP	Entry request menu for AFCP2103
AFCM250	MAP	AFCP2501 Maintenance panel
AFCM252	MAP	AFCP2502 tablefile change map.
AFCM400	MAP	CICSDDN, CICSTXN, USERID, CTLRCD Table Entry Browse Screen
AFCM401	MAP	Customization Options Edit & Browse Screen

## CAFC INSTALLATION CONTENTS

### CAFC.LOADLIB - CONTINUED

AFCP2001	ONLINE	CAFC Main Supervisor Program. It directs main sub-system requests to the appropriate sub-system supervisor.
AFCP2002	ONLINE	CAFC Edit and Browse Supervisor Program. This program directs browse and edit requests to the appropriate edit and browse programs.
AFCP2004	ONLINE	CAFC Application DDname List Table (APPLDDN) Edit Program.
AFCP2007	ONLINE	CAFC Function Display Program. This program displays the CAFC Function Menu and the CAFC Selection List and from the request(s) entered builds Function Request Parmlist(s) and then links AFCP2008 to perform the function.
AFCP2008	ONLINE	CAFC Function Program. Based upon CAFC request type, this program builds EXEC CICS Open/Close list(s) and issues the commands to enables/disables transactions.
AFCP2009	ONLINE	CAFC Function Program. Issues DLI commands to DBCTL.
AFCP2010	ONLINE	CAFC Initialization Program. This program displays the initial CAFC sign-on menu and initializes the Common Area that is used by most CAFC programs to store information between tasks. It processes the AFCS transaction followed by a parameter. After a user signs on AFCP2010 transfers control to the Main Supervisor Program (AFCP2001). Normally this program is placed in the PLTPI.
AFCP2011	ONLINE	CAFC Password Program. This program allows users to change their CAFC passwords if CAFC Basic Security is turned on.
AFCP2015	ONLINE	CAFC Online Batch Interface Program. This program is invoked when the Batch Interface program (AFCP2016) is executed. It receives the CAFC request, CEMT request, or the transaction to be started sent by AFCP2016 via an LUTYPE6 VTAM session; builds a CAFC function request list; links to either AFCP2008 (for CAFC requests) or AFCP2060 (for CEMT requests and transactions to be started); and sends the completion messages back to AFCP2016 via the LUTYPE6 session.

## CAFC INSTALLATION CONTENTS

### CAFC.LOADLIB - CONTINUED

AFCP2016	BATCH	CAFC Batch Interface Program. This program establishes a VTAM session with the appropriate CICS; sends a CAFC request, CEMT request, or a transaction to be started across the link; receives the completion messages back across the VTAM session; displays the messages upon the OS console; and then checks for another request. If the next request is for the same CICS (Applid), it sends this request across; otherwise, it issues CSSF LOGOFF; terminates the current VTAM session; and initiates a VTAM session with the new CICS (Applid).
AFCP2017	ONLINE	CAFC Help Supervisor Program. This program displays the Help Screens and CAFC Function Error Message Table.
AFCP2018	ONLINE	CAFC Non-3270 Device Support Program. This program (1) reads a CAFC Function Request from a non-3270 device, (2) builds a request parmlist, (3) links to AFCP2008, (4) and then writes the completion messages back to the non-3270 device.
AFCP2019	BATCH	CAFC Conversion Program. This program initializes the CAFC Table file.
AFCP2020	BATCH	CAFC Transfer Program. This program transfers table file records from one CAFC Table File to another.
AFCP2021	BATCH	CAFC Batch Report Program. This program creates reports on the entries in the CAFC Table File.
AFCP2022	ONLINE	CAFC DBD DDname List Table (CICSDBD) Edit Program.
AFCP2023	BATCH	CAFC JCL DD Card to CAFC CICS DDname Table Record Conversion Program.
AFCP2032	ONLINE	CAFC Online CEMT Transaction Program called by AFCP2008 for open/close processing.
AFCP2035	ONLINE	CAFC Customization Subsystem Supervisor Program.
AFCP2038	ONLINE	CAFC Trace Options Update Program.
AFCP2503	ONLINE	CAFC Online CAFC DDname Table Change Program.
AFCP2043	ONLINE	CAFC Message Maintenance Program.
AFCP2045	BATCH	CAFC Control Record Report Program.
AFCP2049	ONLINE	Program to disable FCT entry after close request.
AFCP2050	ONLINE	CAFC Multiple Regions Operations Interface Program.
AFCP2054	ONLINE	Completes RPL commands.
AFCP2055	ONLINE	Completes RPL commands.
AFCP2057	ONLINE	Edit APPLRPL records.

## CAFC INSTALLATION CONTENTS

### CAFC.LOADLIB - CONTINUED

AFCP2060	ONLINE	CAFC Batch Interface CEMT and Transaction Interface Processor. For CEMT requests, this program builds a CEMT communications area; links to the CAFC Online CEMT Transaction program (AFCP2032) to execute the CEMT command; upon return from AFCP2032 builds a message table containing the returned messages; and then returns to the CAFC Online Batch Interface program (AFCP2015). For requests to start a transaction, this program checks for a transaction identification and terminal combination. If both exist, the transaction is scheduled on the specified terminal. If no terminal is requested, the transaction is scheduled with no terminal specified. It then builds message table entries to indicate the completion of the scheduling operation.
AFCP2065	ONLINE	RPL scan program.
AFCP2070	ONLINE	CAFC User Message Facility Supervisor Program.
AFCP2071	ONLINE	CAFC Message Facility Customization Program.
AFCP2072	ONLINE	CAFC Message Function Customization Program.
AFCP2074	ONLINE	CAFC Message Application Routing List Edit Program.
AFCP2075	ONLINE	CAFC Message Sub-List Routing Edit Program.
AFCP2076	ONLINE	CAFC Message Facility Message Send/Edit Program.
AFCP2077	ONLINE	CAFC Message Facility Message Destination List Build.
AFCP2078	ONLINE	CAFC Message Application Routing Program.
AFCP2079	ONLINE	CAFC Message Routing List Browse Program.
AFCP2080	ONLINE	AFC Message Global Routine List Edit Program.
AFCP2081	ONLINE	CAFC EXEC/XCTL User Program Initiation Program.
AFCP2097	ONLINE	CAFC Initial Open program
AFCP2098	ONLINE	CAFC Initialization program.
AFCP2100	ONLINE	CAFC Function program. Directs functions to appropriate program.
AFCP2102	ONLINE	CAFC Record Report supervisor program
AFCP2103	ONLINE	CAFC record report program.
AFCP2107	ONLINE	CAFC RDO request display program.
AFCP2108	ONLINE	CAFC RDO request function program.
AFCP2109	ONLINE	CAFC automatic allocation and free program.
AFCP2110	BATCH	Called for EXEC batch request.
AFCP2209	ONLINE	CAFC automatic allocation and free program for FCS requests.
AFCP2210	ONLINE	CAFC status program.
AFCP2300	ONLINE	Program scans and tries to ID RPL user.
AFCP2400	ONLINE	Ddname entry edit program.
AFCP2401	ONLINE	Transaction entry edit program.
AFCP2402	ONLINE	Userid entry edit program.

# CAFC INSTALLATION CONTENTS

## CAFC.LOADLIB - CONTINUED

AFCP2403	ONLINE	Maintain control record options.
AFCP2500	ONLINE	CAFC Table file maintenance program
AFCP2501	ONLINE	CAFC Table file maintenance driver program.
AFCP2502	ONLINE	CAFC Table file maintenance driver program.
AFCP2503	ONLINE	CAFC Table file maintenance translator program.
AFCP2516	BATCH	CAFC Table file maintenance batch interface program.
AFCP2517	ONLINE	CAFC Batch Table file maintenance program. Batch version of AFCP2500.
AFCP4216	BATCH	Update table file for 4.2.00 tablefile. Called by AFCP2016.
AFCP4316	BATCH	Update table file for 4.3.00 tablefile. Called by AFCP2016.
AFCP4317	BATCH	Issue DB control commands.
AFCP4318	BATCH	Issue RLS commands.(quiesce, unquiesce)
AFCP9999	ONLINE	CAFC Shutdown program.
AFCP2BCC	BATCH	CAFC Batch Interface Control Card Exit.
AFCP2BS2	BATCH	CAFC-supplied sample Batch Interface Security Exit Program.
AFCP2BSX	BATCH	CAFC-supplied default Batch Interface Security Exit Program.
AFCPBTX1	BATCH	Batch Terminal Processor vtam Receive Data Exit (sample).
AFCP2CCX	BATCH	CAFC Batch Condition Code Exit.
AFCP2DCT	PLTPI	CAFC Initialization driver program. Determines executing CICS and transfers control to correct startup PLT program DCT31, DCT32, or DCT33.
AFCP2DLI	PLTPI	CAFC Initialization driver program. Determines executing CICS and transfers control to correct startup PLT program DLI31, DLI32, DLI33 or DLI41.
AFCP2FAC	ONLINE	
AFCP2FCS	STRUP	
AFCP2LU0	BATCH	CAFC Batch User Transaction Processor. This program establishes an LU0 session with the appropriate CICS, sends the user transaction across the link, receives the completion messages back across the link and displays the messages upon the OS console.
AFCP2MSG	ONLINE	
AFCP2RLS	STRUP	
AFCP2SG4	BATCH	CICS/RACF Auto Sign-on Facility driver.
AFCP2SG5	BATCH	CICS/RACF Auto Sign-on Facility driver for TS3.1.
AFCP2SGN	BATCH	CICS/RACF Auto Sign-on facility driver.
AFCP2SOX	BATCH	CAFC-supplied default Batch Interface Sign-on/Sign-off Exit Program.

# CAFC INSTALLATION CONTENTS

## CAFC.LOADLIB - CONTINUED

AFCP2SVC	ONLINE	
AFCP2UEX	ONLINE	Sample Alloc/Free/Open/Close User Exit.
AFCPDCOM	BATCH	Sample user exit program to support DATACOM/DB.
AFCPOVER	STRUTUP	
AFCPSHUT	ONLINE	CICS Shutdown Program.
AFCPSINK	PLT	(optional) PLT program for synchronizing FCT status at PLT time. Can be executed by issuing SINK transaction.
AFCPSIP	STRUTUP	DFHSIP front-end program.
AFCPSIPX	STRUTUP	DFHSIP front-end program.
AFCPSIPY	STRUTUP	DFHSIP front-end program.
AFCPSIP3	STRUTUP	Initialization allocation program. Called by AFCPSIP.
AFCPSTAT	ONLINE	
AFCPSVCT	ONLINE	
AFCPTRAC	ONLINE	
AFCPWARM	STRUTUP	CAFC PLT Warm Start Program.
AFCPXRCN	STRUTUP	CAFC Emergency Backout Program.
AFCT3000	TABLE	CAFC Online I/O Subsystem program.
AFCT3041	TABLE	CAFC Online I/O Subsystem program.
AFCT3051	TABLE	CAFC Online I/O Subsystem program.
AFCT3052	TABLE	CAFC Online I/O Subsystem program.
AFCT3053	TABLE	CAFC Online I/O Subsystem program.
AFCT3061	TABLE	CAFC Online I/O Subsystem program.
AFCT3062	TABLE	CAFC Online I/O Subsystem program.
AFCT3063	TABLE	CAFC Online I/O Subsystem program.
AFCT3064	TABLE	CAFC Online I/O Subsystem program.
AFCT1000	TABLE	
AFCT2060	TABLE	
AFCP2070	TABLE	
DBC9000	ONLINE	
DFSAOEDR	ONLINE	
DFSAOENT	ONLINE	
DFSAOEDR	ONLINE	
DCT41	FRNTEND	CAFC CICS410 dynamic allocation front-end for EXEC CICS processing.
DCT51	FRNTEND	CAFC CICS TS1.1 dynamic allocation front-end for EXEC CICS processing.
DCT52	FRNTEND	CAFC CICS TS1.2 dynamic allocation front-end for EXEC CICS processing.
DCT53	FRNTEND	CAFC CICS TS1.3 dynamic allocation front-end for EXEC CICS processing.
DCT61	FRNTEND	CAFC CICS TS2.1 dynamic allocation front-end for EXEC CICS processing.



# CAFC INSTALLATION CONTENTS

## CAFC.LOADLIB - CONTINUED

DCT62	FRNTEND	CAFC CICS TS2.2 dynamic allocation front-end for EXEC CICS processing.
DCT63	FRNTEND	CAFC CICS TS2.3 dynamic allocation front-end for EXEC CICS processing.
DCT64	FRNTEND	CAFC CICS TS3.1 dynamic allocation front-end for EXEC CICS processing.
DFHDEB70	ONLINE	CAFC APF Authorization Facility Component.
DLI33	ONLINE	CAFC CICS330 DFHDLI frontend program.
DLI41	ONLINE	CAFC CICS410 DFHDLI control block program.
FCS41	FRNTEND	CAFC CICS410 dynamic allocation front-end for FCS
FCS51	FRNTEND	CAFC CICS TS1.1 dynamic allocation front-end for FCS.
FCS52	FRNTEND	CAFC CICS TS1.2 dynamic allocation front-end for FCS.
FCS53	FRNTEND	CAFC CICS TS1.3 dynamic allocation front-end for FCS.
FCS61	FRNTEND	CAFC CICS TS2.1 dynamic allocation front-end for FCS.
FCS62	FRNTEND	CAFC CICS TS2.2 dynamic allocation front-end for FCS.
FCS63	FRNTEND	CAFC CICS TS2.3 dynamic allocation front-end for FCS.
FCS64	FRNTEND	CAFC CICS TS3.1 dynamic allocation front-end for FCS.
RLS51	FRNTEND	CAFC CICS TS1.1 RLS intercept exit.
RLS52	FRNTEND	CAFC CICS TS1.2 RLS intercept exit.
RLS53	FRNTEND	CAFC CICS TS1.3 RLS intercept exit.
RLS61	FRNTEND	CAFC CICS TS2.1 RLS intercept exit.
RLS62	FRNTEND	CAFC CICS TS2.2 RLS intercept exit.
RLS63	FRNTEND	CAFC CICS TS2.3 RLS intercept exit.
RLS64	FRNTEND	CAFC CICS TS3.1 RLS intercept exit.
XDBO41	STRUP	CAFC CICS 410 emergency backout program for DLI.
XFBO41	STRUP	CAFC CICS 410 emergency backout program for FCTs.
NTCTRACE	ONLINE	DBCTL request trace program.

## CAFC INSTALLATION CONTENTS

**CAFC.MACLIB**

Member	Mode	Description
AFCD2001	DSECT	Common area passed between all CAFC programs.
AFCD2004	DSECT	All CAFC Table File records.
AFCD2005	DSECT	Subtask Parmlist/ECB used by AFCP2009 and AFCP9999.
AFCD2007	DSECT	Parmlist passed by AFCP2008 to perform CAFC functions.
AFCD2008	DSECT	Parmlist for External Security Program.
AFCD2009	DSECT	Parmlist passed to an installation written dbctl user exit program.
AFCD2010	DSECT	Redefines DDname list portion of maps AFCD205 and AFCD20M.
AFCD2011	DSECT	Redefines the TXN. list portion of map AFCD206.
AFCD2012	DSECT	Redefines the APPL. list portion of map AFCD207.
AFCD2013	DSECT	Redefines the list portions of maps AFCD20F, AFCD20G, AFCD20H, and AFCD20N.
AFCD2014	DSECT	Redefines the entry list portion of map AFCD203.
AFCD2015	DSECT	Redefines the entry list portion of map AFCD209.
AFCD2016	DSECT	Redefines the message list portion of map AFCD209.
AFCD2017	DSECT	Parmlist passed to an installation written Alloc/Free/Open/Close User Exit Program.
AFCD2018	DSECT	Parmlist passed from AFCD2016 to programs that update the table file
AFCD2032	DSECT	Parmlist passed to an installation written program to call 'CEMT'.
AFCD2040	DSECT	Parmlist for DDname Entry Maintenance Facility.
AFCD2050	DSECT	Parmlist used to call DLI service routines.
AFCD2072	DSECT	Maps AFCD2070 function table.
AFCD2074	DSECT	Defines the message entry received by AFCD2078, the CAFC message send program.
AFCD2110	DSECT	Data block passed between AFCD2015 and AFCD2110.
AFCD200E	DSECT	All CAFC associated error messages.
AFCD201A	DSECT	CAFC Batch Interface Security Exit Area.
AFCD201X	DSECT	CAFC Batch Interface Sign-on/Sign-off Exit Area.
AFCD201P	DSECT	CAFC Batch Interface Sign-on/Sign-off Parameter List.
AFCD2016	MACRO	CAFC CICS/Batch Interface APPLID Association Table.
AFCD201R	MACRO	CAFC MRO Transid/Remote Region Association Table.
AFCD4300	MACRO	CAFC record layouts.

### TROUBLE SHOOTING

If you experience a problem that you believe is related to CAFC, please contact NETEC and ask for technical support group.

A rule of thumb, to consider when gathering problem documentation, is to include anything that you might need to begin your own problem determination project. Please consider the following recommendations.

Subject to the type of problem, the problem description should include (for example):

- ❑ The frequency of the problem.
- ❑ Did the problem start when a change was made to CICS, MVS, VTAM, VSAM or CAFC?
- ❑ The circumstances in which the problem occurs, for example, whenever CICS is under stress, or whenever running a monitor.
- ❑ Can you reproduce the problem at will?
- ❑ The abending CAFC program and the offset within the program.
- ❑ Does it occur when CAFC's CICS exit programs are deactivated?

The above suggestions are only guidelines and may not apply to your particular problem. Too much documentation is always better than too little.

For possible CAFC problems, please gather the following items:

- ❑ A detailed description of the problem symptoms.
- ❑ The current CICS release level and maintenance level.
- ❑ The current CAFC release level and distribution date.
- ❑ The current VTAM release level if the batch interface is involved.
- ❑ Knowledge of external security packages in use.
- ❑ The CICS transaction dump (if applicable). Please make an attempt to review the dump yourself to insure that the problem is indeed CAFC related. Due to our exit program processing during CICS open/close requests, problems related to other software are often camouflaged by abend handles and thus appear to be CAFC problems.

**TROUBLE SHOOTING - CONTINUED**

- ❑ CAFC debugging traces during the problem.
- ❑ Console logs.
- ❑ JCL listings (CICS and Batch).
- ❑ CICS logs (for example, the CSMT log). This log contains much information and is particularly useful in debugging batch interface problems.
- ❑ A list of maintenance recently applied to either CAFC, VSAM, or CICS.
- ❑ Details of any user modifications.
- ❑ A print out of your LU6.2 entry, your LU0 TCT entry and your VTAM APPL definition, if the error is with the batch interface.
- ❑ If this is a newly installed version of CAFC, our staff needs a detailed list of the installation steps performed at your site. If this information is not available, the NETEC technical support group will need to work with you to obtain this documentation.
- ❑ Any ideas you have of the cause of the problem.

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